

EXHIBIT E - Whitford Dep

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

JOANNE HART and AMANDA)
PARKE, on behalf of)
themselves and all others)
similarly situated,)
Plaintiffs,)

-vs-

) No. 1:15-cv-04804

BHH, LLC d/b/a BELL &) (WHP)
HOWELL and VAN HAUSER,)
LLC,)
Defendants.)

The deposition of PHILIP C. WHITFORD, Ph.D.,
called for examination, taken before GAIL LIVIGNI,
CSR No. 84-1965, a Notary Public within and for the
County of Will, State of Illinois, and a Certified
Shorthand Reporter of said state, at Suite 1100, 33
West Monroe Street, Chicago, Illinois, on the 12th
day of January, A.D. 2018, commencing at 9:30 a.m.

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1 PRESENT:
 2 BURSAR & FISHER, P.A.,
 3 (888 Seventh Avenue,
 4 New York, NY 10019,
 5 (646) 837-7127), by:
 6 MR. YITCZHAK KOPEL,
 7 MR. ALICE LESLIE,
 8 appeared on behalf of the Plaintiffs;
 9
 10 LEAHY, EISENBERG & FRAENKEL,
 11 (33 West Monroe Street, Suite 1100,
 12 Chicago, Illinois 60603,
 13 (312) 368-4554), by:
 14 MR. ROBERT OSTOJC,
 15 MR. MICHAEL WEISS,
 16 appeared on behalf of the Defendants.
 17
 18 ALSO PRESENT:
 19 MR. PAUL BORTH, Ph.D.
 20 MR. BEN STANSON, Videographer.
 21
 22
 23 REPORTED BY: GAIL LIVIGNI, CSR
 24 CSR No. 84-1965.

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1 Defendant. 09:48:42
 2 MR. KOPEL: Whoever is on the phone, please 09:48:56
 3 identify themselves? 09:48:58
 4 MR. WEISS: Dr. Borth, could you please 09:49:00
 5 identify yourself? 09:49:02
 6 MR. BORTH: Paul Borth on the phone. 09:49:04
 7 MR. WEISS: Thank you. 09:49:08
 8 (WHEREUPON, the witness was duly
 9 sworn.)
 10 PHILIP C. WHITFORD, M.D.,
 11 called as a witness herein, having been first duly
 12 sworn, was examined and testified as follows:
 13 DIRECT EXAMINATION
 14 BY MR. KOPEL:
 15 Q. Good morning, Dr. Whitford. 09:49:16
 16 A. Good morning. 09:49:18
 17 Q. Can you please state your name and 09:49:18
 18 address for the record? 09:49:20
 19 A. Dr. Philip with one T, C. Whitford. 09:49:20
 20 W-h-i-t-f-o-r-d, 5491 Schuman Road, S-c-h-u-m-a-n, 09:49:24
 21 Cross Plains, C-r-o-s-s, P-l-a-i-n-s, Wisconsin, 09:49:34
 22 53528. 09:49:42
 23 Q. That's your primary residential address? 09:49:42
 24 A. It is. My work address had been Capital 09:49:44

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1 THE VIDEOGRAPHER: We are now on the record. 09:49:56
 2 My name is Ben Stanson representing Veritext Legal. 09:49:58
 3 Solutions. The date today is January 12, 2018, and 09:49:58
 4 the time is approximately 9:41 a.m. 09:49:58
 5 This deposition is being held at Leaky, 09:49:58
 6 Eisenberg & Fraenkel located at 33 West Monroe 09:49:58
 7 Street in Chicago, Illinois and is being taken by 09:49:58
 8 Counsel for the Plaintiffs. The caption in this 09:49:58
 9 case is Joanne Hart, et al., versus BHH, LLC, et 09:49:58
 10 al. 09:49:58
 11 This case is being held in the U.S. 09:49:58
 12 District Court, Southern District of New York, case 09:49:58
 13 number 1:15-cv-04804. The name of the witness is 09:49:58
 14 Philip Whitford, Ph.D. At this time, the attorneys 09:49:58
 15 present in the room and everyone attending remotely 09:49:58
 16 will identify themselves and the parties they 09:49:58
 17 represent. 09:49:58
 18 MR. KOPEL: Yitzhak Kopel, Bursar & Fisher, 09:49:58
 19 P.A. representing Plaintiffs and the certifica 09:49:58
 20 tions. With me today is my colleague Alice 09:49:58
 21 Leslie. 09:49:58
 22 MR. OSTOJC: Robert Ostojic on behalf of the 09:49:58
 23 Defendant, BHH, LLC. 09:49:58
 24 MR. WEISS: Michael Weiss on behalf of 09:49:58

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1 University, Columbus, Ohio. I'm a Professor 09:49:58
 2 Emeritus Biology. 09:49:58
 3 Q. Thank you. I know we met briefly off 09:49:58
 4 the record. Let me just formally introduce myself. 09:49:58
 5 My name is Yitzhak Kopel. I represent the 09:50:02
 6 Plaintiffs and the certified classes in a class 09:50:04
 7 action lawsuit against BHH, LLC and Van Hanuser, 09:50:06
 8 LLC. 09:50:12
 9 I'm going to be asking you some 09:50:12
 10 questions today in connection with that lawsuit. 09:50:12
 11 Do you understand that? 09:50:14
 12 A. Yes. 09:50:16
 13 Q. And you're not being sued and you're not 09:50:16
 14 a party to this lawsuit. You understand that? 09:50:20
 15 A. Correct. 09:50:22
 16 Q. Have you ever sat for a deposition 09:50:22
 17 before? 09:50:24
 18 A. No. 09:50:24
 19 Q. Have you ever served as an expert 09:50:24
 20 witness before? 09:50:30
 21 A. Yes. 09:50:30
 22 Q. How many times? 09:50:32
 23 A. Once. 09:50:34
 24 Q. Okay. I think that's it, you C.V., 09:50:36

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2 (Pages 2 - 5)

1 we'll get to that shortly. Did you testify at 09:50:38
 2 trial in that case? 09:50:40
 3 A. Nope. 09:50:42
 4 Q. You submitted expert reports in that 09:50:42
 5 case? 09:50:44
 6 A. I did. 09:50:44
 7 Q. How many? 09:50:46
 8 A. Just one. 09:50:46
 9 Q. Okay. So before we continue, I just 09:50:46
 10 want to discuss some ground rules for today. Do 09:50:56
 11 you understand that you're testifying under oath? 09:50:58
 12 A. I do. 09:51:00
 13 Q. Do you understand that you have the same 09:51:02
 14 obligation to tell the truth here today as you 09:51:02
 15 would before a judge and a jury? 09:51:04
 16 A. I do. 09:51:06
 17 Q. So it's very important that we 09:51:08
 18 communicate clearly today. I'm going to ask you a 09:51:10
 19 lot of questions in connection with this case. If 09:51:12
 20 you don't understand anything, please just let me 09:51:14
 21 know, and I will try to clarify it for you, okay? 09:51:16
 22 A. Very well. 09:51:20
 23 Q. Do you understand that you are being 09:51:20
 24 represented today by Counsel who is sitting right 09:51:22

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1 next to you? 09:51:24
 2 A. Yes. 09:51:26
 3 Q. Today's deposition is being videotaped. 09:51:26
 4 Do you understand that? 09:51:28
 5 A. Hard not to looking at the camera. 09:51:30
 6 Q. Fair enough. Do you understand that 09:51:32
 7 there is a Court Reporter here today and the Court 09:51:34
 8 Reporter is transcribing everything that we say for 09:51:36
 9 the record? 09:51:38
 10 A. Absolutely. 09:51:38
 11 Q. So let's please try to speak at a 09:51:38
 12 reasonable pace so that the Court Reporter is able 09:51:40
 13 to take down everything we say, okay? 09:51:44
 14 A. Okay. 09:51:46
 15 Q. And it's very tough for the Court 09:51:46
 16 Reporter to get down what we say if we ever talk 09:51:48
 17 over each other, so I will try very hard to never 09:51:52
 18 interrupt you while you're giving me answers to my 09:51:54
 19 questions, and by the same token, I'll ask you to 09:51:56
 20 please let me finish my questions before you begin 09:51:58
 21 your answers, okay? 09:52:00
 22 A. Fair enough. 09:52:02
 23 Q. And also for the benefit of the Court 09:52:02
 24 Reporter, please try to answer all my questions 09:52:06

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1 verbally. Head nods or things like uh-huh are not 09:52:10
 2 going to work because it doesn't come out on the 09:52:14
 3 transcript, okay? 09:52:16
 4 A. I will do my best. 09:52:16
 5 Q. Thank you. Is there any reason that you 09:52:18
 6 cannot testify truthfully and accurately today? 09:52:22
 7 A. Nothing that I'm aware of. 09:52:24
 8 Q. Okay. 09:52:26
 9 MR. KOPEL: I'm going to ask the Court 09:53:00
 10 Reporter to please mark two documents, reports by 09:53:02
 11 Dr. Philip C. Whifford as Exhibits Whifford 1 and 09:53:10
 12 2. 09:53:10
 13 (WHEREUPON, certain documents were 09:53:10
 14 marked Whifford Deposition Exhibit
 15 Nos. 1 and 2, for identification,
 16 as of 01/12/2018.)
 17 BY MR. KOPEL:
 18 Q. Dr. Whifford, do you have Exhibit 1? 09:53:58
 19 A. I do. 09:54:04
 20 Q. Have you seen it before? 09:54:04
 21 A. Yes. 09:54:06
 22 Q. What is it? 09:54:06
 23 A. It's a summary of my comments following 09:54:06
 24 review of Hart versus et al. -- or Hart, et al. 09:54:10

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1 versus BHH, LLC following reading the depositions 09:54:14
 2 and looking at test results in the case from Hart, 09:54:20
 3 Jeanne Hart, Sandra Bueno, and I think it's -- was 09:54:34
 4 it Diane Feinstein? 09:54:44
 5 Q. Debbie Feinstein. 09:54:48
 6 A. Debbie Feinstein. 09:54:48
 7 Q. Okay, thank you. And when you say 09:54:50
 8 summary, is this your expert report in this case? 09:54:50
 9 A. That would be my expert report from the 09:54:56
 10 first information I received. 09:54:56
 11 Q. Okay, thank you. Can you please take a 09:55:00
 12 look at Exhibit 2? 09:55:02
 13 A. Yes. 09:55:06
 14 Q. Do you have Exhibit 2? 09:55:06
 15 A. I do. 09:55:14
 16 Q. Have you seen it before? 09:55:16
 17 A. Absolutely. 09:55:16
 18 Q. What is it? 09:55:18
 19 A. It's the summary comments and the 09:55:18
 20 rebuttal of Plaintiff's expert report for 09:55:22
 21 Dr. Michael L. Potter in Hart, et al., versus BHH, 09:55:26
 22 J.T.C., et al. 09:55:32
 23 Q. Okay. So these are your two expert 09:55:32
 24 reports in this case, correct? 09:55:36

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1 A. Correct. 09:55:36
 2 Q. Are they complete copies of your expert 09:55:38
 3 reports? 09:55:42
 4 A. I'm just making sure all parts are 09:56:08
 5 there. 09:56:10
 6 Q. That's fine, take your time. 09:56:10
 7 A. Yes, they are. 09:56:12
 8 Q. Okay, thank you. Do these reports 09:56:12
 9 contain a complete statement of all the opinions 09:56:14
 10 you will express and the bases and reasons for 09:56:18
 11 them? 09:56:24
 12 A. Probably not due to the fact that I 09:56:24
 13 received the last materials in the case only the 09:56:28
 14 day before Dr. Potter's deposition, and that was 09:56:32
 15 the actual data records, testing results and such, 09:56:36
 16 so I couldn't address those previously, so that was 09:56:42
 17 not in here yet. 09:56:46
 18 Q. Okay. And did the documents you 09:56:48
 19 reviewed from that production change any of the 09:56:54
 20 opinions you expressed in these reports? 09:56:56
 21 A. They made the opinions considerably 09:56:58
 22 stronger. 09:57:00
 23 Q. Did it change any -- did it make any of 09:57:02
 24 your opinions weaker? 09:57:06

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1 A. No. 09:57:06
 2 Q. Okay. Now, please take a look at 09:57:08
 3 Exhibit 1. Was this report signed by you? 09:57:16
 4 A. I don't recall having put a signature on 09:57:24
 5 it. 09:57:28
 6 Q. So the answer is no? 09:57:30
 7 A. It was transmitted by computer, so the 09:57:32
 8 answer is no, I didn't have a means to sign it. 09:57:36
 9 Q. Okay, thank you. And the same question 09:57:40
 10 for Exhibit 2? 09:57:42
 11 A. Same answer. 09:57:42
 12 Q. What is -- what was your assignment in 09:57:44
 13 this case? 09:57:50
 14 A. To read and evaluate the depositions. 09:57:52
 15 the comments, rebuttal comments, and the actual 09:58:00
 16 data of tests and give my best appraisal of the 09:58:04
 17 validity or lack of validity of those tests. 09:58:14
 18 Q. Are you an expert witness in this case? 09:58:16
 19 A. Yes. 09:58:20
 20 Q. Are you rendering opinions as to the 09:58:22
 21 efficacy of the Bell & Howell test repellents in 09:58:28
 22 repelling and driving out rodents? 09:58:32
 23 A. I am. 09:58:34
 24 Q. Are you rendering any opinions as to the 09:58:34

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1 efficacy of Bell & Howell test repellents repelling 09:58:34
 2 and driving out insects? 09:58:40
 3 A. That was actually Dr. Borth's area of 09:58:40
 4 expertise, not mine. 09:58:48
 5 Q. Okay, understood. So is the answer to 09:58:48
 6 my question, no, you're not rendering any opinions 09:58:50
 7 as to that topic? 09:58:52
 8 MR. OSTOJIC: Objection, form. Topic being 09:58:54
 9 insects? 09:58:56
 10 BY MR. KOPEL: 09:58:56
 11 Q. Correct. 09:58:58
 12 A. I wasn't asked to address that. 09:58:58
 13 Q. Okay. And I'm sorry, you know, this is 09:59:04
 14 a deposition, it's not a formal conversation. 09:59:06
 15 A. Right. 09:59:08
 16 Q. Excuse me, it's a more formal setting 09:59:08
 17 than a conversation, so my question is just 09:59:12
 18 confirmation that you are not rendering any 09:59:14
 19 opinions on the efficacy of Bell & Howell repellents 09:59:16
 20 as to insects, is that correct? 09:59:22
 21 A. Only to the extent that, looking at the 09:59:24
 22 tests Dr. Potter has submitted in reference to 09:59:28
 23 versus Dr. Borth's and the Chinese tests, that I 09:59:36
 24 agree that there are differences of opinion between 09:59:40

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1 Dr. Borth and Dr. Potter as to efficacy. 09:59:44
 2 But one of Dr. Potter's main things is 09:59:50
 3 claiming that a study doesn't count unless it's 09:59:52
 4 conducted in real world conditions, none of which 09:59:56
 5 in his references or his own tests occurred, and 10:00:00
 6 they did not occur in real world environments for 10:00:06
 7 the Chinese insects test. They were all done in 10:00:10
 8 artificial containers. So Dr. Potter's main claim 10:00:12
 9 is if it's done in an artificial setting, it's not 10:00:18
 10 valid. 10:00:22
 11 Q. Other than what you just stated, are you 10:00:22
 12 rendering any opinions as to the efficacy of 10:00:28
 13 Bell & Howell repellents in repelling or driving out 10:00:30
 14 insects? 10:00:34
 15 A. No. 10:00:34
 16 Q. Can we agree just for shorthand that 10:00:36
 17 when I say the word insects today, I'm referring to 10:00:40
 18 ants, spiders and roaches, is that okay? 10:00:42
 19 A. Absolutely. 10:00:44
 20 Q. I understand that may not be entirely 10:00:46
 21 scientifically accurate. Are you rendering any 10:00:48
 22 opinions on damages in this case? 10:00:56
 23 A. I'm uncertain what you mean by damages. 10:01:00
 24 Q. Sure. You understand that in a lawsuit 10:01:02

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1 plaintiffs are seeking money from defendants? 10:01:14
 2 A. Okay, that form of damages, not damages 10:01:16
 3 done by pests in a house? 10:01:18
 4 Q. Correct. So going by that definition, 10:01:20
 5 are you rendering any opinions as to damages in 10:01:22
 6 this case? 10:01:24
 7 A. In terms of whether they're appropriate 10:01:26
 8 or how much, no, that's not my job. 10:01:30
 9 Q. Okay, thank you. Now, take a look at 10:01:32
 10 Exhibit 1, please. Does this report contain a list 10:01:40
 11 of all facts or data you considered in forming your 10:01:46
 12 opinions? 10:01:52
 13 MR. OSTOJIC: Object to form, foundation. 10:01:52
 14 With respect to this Exhibit 1? 10:01:56
 15 BY MR. KOPEL: 10:01:56
 16 Q. Correct, with respect to Exhibit 1. 10:01:56
 17 A. Okay. The question again, please. 10:02:00
 18 Q. Sure. Does Exhibit 1 contain a list of 10:02:00
 19 all facts or data that you considered in forming 10:02:04
 20 your opinions? 10:02:08
 21 A. As I say, I didn't have the last of the 10:02:10
 22 data until the day before Dr. Potter's deposition, 10:02:12
 23 so it does not contain all of the facts 10:02:16
 24 Q. Okay. 10:02:18

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1 A. It contains the facts that I had at the 10:02:20
 2 time that I wrote it. 10:02:24
 3 Q. Does this report contain a list of all 10:02:26
 4 facts or data you considered in forming the 10:02:30
 5 opinions listed in Exhibit 1? 10:02:32
 6 A. Yes. 10:02:38
 7 Q. Same question for Exhibit 2? 10:02:36
 8 A. Yes. 10:02:40
 9 Q. Does Exhibit 1 contain a statement of 10:02:44
 10 how much you're being compensated in this case? 10:02:48
 11 A. I don't know whether it does, but \$100 10:02:52
 12 an hour. 10:02:58
 13 Q. Okay, thanks. But you do have Exhibit 1 10:02:58
 14 in front of you, correct? 10:03:02
 15 A. Yes. 10:03:02
 16 Q. Can you please let me know does 10:03:02
 17 Exhibit 1 contain a statement of your compensation 10:03:04
 18 in this case? 10:03:08
 19 A. I do not recall. I don't see any in the 10:03:14
 20 areas I would expect it to be found if I did. 10:03:32
 21 Q. Same question for Exhibit 2, please. 10:03:34
 22 A. No. 10:03:40
 23 Q. I'd just like to talk with you, please, 10:03:56
 24 about your qualifications and background. Are you 10:04:00

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1 an entomologist? 10:04:08
 2 A. I am not an entomologist, but I'm a 10:04:08
 3 broadly trained biologist who has taught 10:04:10
 4 entomology, parasitology, vertebrate biology, you 10:04:14
 5 name it, 28 separate courses over the course of 10:04:18
 6 32 years. So I'm familiar with a great deal of the 10:04:22
 7 entomology from the standpoint of animal behavior 10:04:28
 8 which has at least a fourth of the materials in 10:04:32
 9 that course dedicated to behavior of insects? 10:04:34
 10 Q. Are you a rodentologist? 10:04:38
 11 A. I'm not a rodentologist. I have taken 10:04:42
 12 mammalogy and I certainly know my rodents well. 10:04:46
 13 Dr. Charles Long from UW-Stevens Point who was 10:04:50
 14 referenced was my professor. He made sure that I 10:04:54
 15 could identify ever mouse, vole, small mammal and 10:04:58
 16 large mammal in Wisconsin by one hair or one tooth 10:05:02
 17 before I got out of the class, so I do have some 10:05:06
 18 background in it, and I have many years of records 10:05:10
 19 dealing with rodents in areas around and on my farm 10:05:14
 20 and other places. 10:05:20
 21 Q. Are you referring to your testing of the 10:05:20
 22 Transonic Pro? 10:05:26
 23 A. Only in part. 10:05:26
 24 Q. What else are you referring to? 10:05:28

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1 A. 50 years of trapping mice in the house. 10:05:30
 2 working with the sheds and barns for the same 10:05:36
 3 purposes, always paying attention to what species 10:05:38
 4 I'm seeing and numbers of them. 10:05:42
 5 Q. Have you covered the topic of 10:05:44
 6 rodentology in the courses you've taught? 10:05:50
 7 A. I don't think there is a topic of 10:05:52
 8 rodentology there; but if one-fourth of the 10:05:54
 9 material is on insects, at least one-fourth of 10:05:58
 10 animal behavior is dedicated largely to the studies 10:06:00
 11 of rats and mice because those are the animals 10:06:04
 12 studied in psychology and in animal behavior 10:06:06
 13 because they're easy to maintain. 10:06:10
 14 Q. Have you ever worked outside of 10:06:12
 15 academia? 10:06:16
 16 A. Yes. 10:06:16
 17 Q. Where? 10:06:18
 18 A. I worked for the Area Agency of Aging in 10:06:20
 19 Appleton, Wisconsin as a person who was responsible 10:06:24
 20 for making connections with aging. I'm trying to 10:06:32
 21 think of the right terms for them now - the 10:06:40
 22 facilities available to aging residents of eight 10:06:48
 23 counties in Wisconsin as to access to medicine, 10:06:52
 24 funds, other kinds of needed things, social 10:06:56

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5 (Pages 14 - 17)

1 interactions and setting up places where they could 10:07:02
 2 have meetings, he served foods, other things 10:07:06
 3 working with that cohort and analyzing the needs of 10:07:12
 4 elderly people in those eight counties and 10:07:22
 5 summarizing them so that we could address them. 10:07:26
 6 Q. Okay, thank you. Any other jobs outside 10:07:28
 7 of academia that you can list? 10:07:32
 8 A. Tending bar in Central Wisconsin, 10:07:36
 9 working at Clark Stations being shot at 10:07:38
 10 occasionally, beaten and robbed and things that 10:07:40
 11 would not have much application here. 10:07:44
 12 I guess you'd have to count my 10:07:54
 13 consulting for Bird-X of Chicago, Illinois 10:07:56
 14 Q. And you've done that for approximately 10:08:00
 15 19 -- 18 years, correct? 10:08:02
 16 A. 18 years, yes. 10:08:04
 17 Q. Okay. Are you a salaried employee for 10:08:06
 18 Bird-X? 10:08:10
 19 A. I'm not. 10:08:10
 20 Q. Do you get paid hourly? 10:08:10
 21 A. I do, same rate that I asked for this. 10:08:12
 22 Q. Okay. Do you receive any royalties from 10:08:14
 23 sales of products? 10:08:20
 24 A. I do. 10:08:20

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1 Q. Is that for all of their products or 10:08:22
 2 only certain products? 10:08:26
 3 A. Only the one that I'm responsible for 10:08:26
 4 designing and that's the GooseBuster, unfortunately 10:08:28
 5 named that. G-o-o-s-e-B-u-s-t-e-r. It is designed 10:08:34
 6 to repel geese, and it's been tested and sold for 10:08:40
 7 18 years now. 10:08:44
 8 Q. That's an ultrasonic device? 10:08:46
 9 A. No, that's alarm and alert calls to the 10:08:50
 10 Canada geese recorded in the wild used to make them 10:08:52
 11 leave. 10:08:56
 12 Q. Okay. And you provided the recordings 10:08:56
 13 used? 10:08:58
 14 A. I did. 10:08:58
 15 Q. And do you receive any royalties for 10:08:58
 16 sales of their ultrasonic products? 10:09:00
 17 A. Not a cent. 10:09:04
 18 Q. Have you ever performed any consulting 10:09:04
 19 in the area of pest management? 10:09:12
 20 A. That's essentially what my Canada goose 10:09:14
 21 work is about. 10:09:18
 22 Q. Okay. 10:09:18
 23 A. That's the principal thing I work on. 10:09:20
 24 Consulting at the level of services to Bird-X, I 10:09:24

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1 have tested almost all of their various sonic and 10:09:30
 2 ultrasonic devices against whatever species they've 10:09:34
 3 requested me to test it on to find out whether they 10:09:38
 4 showed efficacy or not, so that included ticks, 10:09:42
 5 long-legged cellar spiders, ants, bed bugs, 10:09:46
 6 squirrels, mice, deer, raccoons. So whatever they 10:09:54
 7 wanted tested, I would test for them and tell them 10:09:58
 8 honestly whether I thought they had efficacy or 10:10:02
 9 not. 10:10:06
 10 Q. Outside of your work for Bird-X, have 10:10:06
 11 you ever done any consulting in the area of urban 10:10:12
 12 pest management? 10:10:14
 13 A. Not so much as -- not as a paid 10:10:22
 14 consultant, but I spent two years doing research at 10:10:24
 15 the Madison Airport which was used by the airport 10:10:28
 16 to change its way of managing possible goose 10:10:32
 17 aircraft collision probabilities. By tracking the 10:10:38
 18 movements of geese, I was able to recommend that 10:10:44
 19 their idea that killing geese in the local parks 10:10:48
 20 would reduce the probability of aircraft 10:10:50
 21 significantly, it was wrong, that it was caused 10:10:56
 22 97 percent by migrant Canada geese and could be 10:11:00
 23 resolved by simply removing the attraction near the 10:11:02
 24 airport which was unfarmed fields of grain. 10:11:06

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1 And the tests showed that was right, we 10:11:12
 2 got it down by 97.6 percent by just -- they changed 10:11:14
 3 the lease on their fields that they owned nearest 10:11:18
 4 the airport, so that's consulting, but I did it not 10:11:20
 5 for pay but at the request of a number of people in 10:11:26
 6 Madison who had requested my participation when 10:11:30
 7 they started the political actions to get 10:11:34
 8 permission to kill geese in the local parks. 10:11:40
 9 Q. Outside of your own home, have you ever 10:11:46
 10 performed any work involving infestations of 10:11:54
 11 rodents? 10:11:58
 12 A. Not to the best of my recollection. 10:12:00
 13 Q. Same question for insects? 10:12:02
 14 A. Nope. 10:12:04
 15 Q. Have you ever trained professionals in 10:12:20
 16 the area of rodent control? 10:12:24
 17 A. No, I have not. 10:12:28
 18 Q. Same question for insects? 10:12:30
 19 A. I have not. 10:12:34
 20 Q. Other than your study involving the 10:12:36
 21 Transonic Pro, have you published any publications 10:12:40
 22 involving rodents? 10:12:48
 23 A. I do not believe so. 10:12:54
 24 Q. And you have a long list of 10:12:56

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1 science-based publications. 10:12:58
 2 A. I do. But as I run through my mind, I 10:13:00
 3 can't recall any others specifically targeting 10:13:06
 4 them. 10:13:08
 5 Q. It looks like -- would you agree that 10:13:10
 6 the majority of your career has been devoted to 10:13:12
 7 studying goose behavior? 10:13:16
 8 A. Well, I'm a bit more of a dabbler than 10:13:18
 9 that, but, yes, that was the focal point. I tend 10:13:20
 10 to branch out and go to whatever attracted me for a 10:13:24
 11 while and come back. 10:13:26
 12 Q. Do you have any publications regarding 10:13:28
 13 ants, spiders or roaches? 10:13:36
 14 A. I do not. 10:13:38
 15 Q. Do you have any patents involving any 10:13:40
 16 sort of pest repellents? 10:13:44
 17 A. The patent for the GooseBuster is held 10:13:48
 18 by Bird-X. I just hold the copyright to the cause. 10:13:50
 19 Q. Okay, thanks. Any others? 10:13:54
 20 A. No. 10:13:56
 21 Q. Have you ever been involved in the 10:13:58
 22 design of a repellent, pest repellent? 10:14:02
 23 A. I've been involved in designing several 10:14:06
 24 things that Bird-X eventually came to sell, 10:14:06

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1 3-dimensional coyote decoy which rotates in the 10:14:08
 2 wind and keeps moving. It has a furry tail so that 10:14:12
 3 it's not just something that sits out there and 10:14:16
 4 doesn't move, and it's designed primarily as a 10:14:18
 5 goose repellent. 10:14:22
 6 Q. Have you ever been involved in the 10:14:22
 7 design of a repellent for mice or rats? 10:14:26
 8 A. No. 10:14:32
 9 Q. Have you ever been involved in the 10:14:32
 10 design of a repellent for ants, spiders or roaches? 10:14:34
 11 A. Absolutely not. 10:14:38
 12 Q. Other than the Transonic Pro -- and is 10:14:40
 13 it called the Yard Gard? 10:14:50
 14 A. There is a Yard Gard, there is a Qmad 10:14:52
 15 Blaster. There is a number of different sonic and 10:14:56
 16 ultrasonic devices that they sell. 10:14:58
 17 Q. So other than the Transonic Pro and the 10:15:00
 18 Yard Gard, have you been involved in the testing of 10:15:06
 19 repellents for mice and rats? 10:15:10
 20 A. Yes, I have. 10:15:16
 21 Q. That was also in the course of your work 10:15:16
 22 at Bird-X? 10:15:20
 23 A. Yes. They asked me to run tests on a 10:15:20
 24 substance called Nanu's Defense which was a group 10:15:24

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1 of flavor granules which were meant to be put in 10:15:30
 2 areas where you suspected mice and rats were moving 10:15:36
 3 and see whether they picked enough of that up on 10:15:40
 4 their hands. It's an aversive chemical. They 10:15:44
 5 apparently did not like -- animals clean their 10:15:46
 6 paws. They apparently did not like the intense 10:15:50
 7 salts and garlic and other flavors there. It was 10:15:52
 8 very effective. I tested it for four months. 10:15:56
 9 Q. Have you published the results of your 10:16:00
 10 testing? 10:16:04
 11 A. No, I just turned those results to 10:16:04
 12 Bird-X. Then they used that as a basis to decide 10:16:06
 13 that they would handle the product. Other aversive 10:16:10
 14 chemicals I've been involved with are the use of 10:16:12
 15 Goose-B-Gone which is an a grape seed flavoring 10:16:16
 16 which has been very effective at keeping geese from 10:16:22
 17 eating grass in areas where they congregate. And 10:16:24
 18 I'm familiar with the work on Alachlor and other 10:16:32
 19 things which cause geese and birds to behave 10:16:36
 20 peculiarly when they ingest it. 10:16:40
 21 Q. Are you an expert on the physics of 10:16:40
 22 ultrasonic sound? 10:16:42
 23 A. I would certainly not say I'm an expert 10:16:46
 24 to the extent that somebody whose sole function in 10:16:50

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1 life is to deal with that, but I've worked with 10:16:52
 2 ultrasound in the field and in the lab since 1982. 10:16:54
 3 I have a long familiarity with testing it on 10:17:02
 4 various animals. 10:17:04
 5 Q. Have you ever tested its physical 10:17:04
 6 properties in terms of frequency or decibel level 10:17:10
 7 or other physical aspects of ultrasound? 10:17:12
 8 A. Yeah, back in the eighties in the 10:17:16
 9 science -- sound labs at UW-Milwaukee I was testing 10:17:20
 10 such things there. 10:17:24
 11 Q. Now, there is a portion of Exhibit 1 10:17:34
 12 titled, "Summary Comments Re the Amended Complaint 10:17:40
 13 Document" in the case of Hurt, et al., et cetera. 10:17:44
 14 Can you please flip to that portion of Exhibit 1? 10:17:48
 15 It's part of your initial report. Sorry, there is 10:18:02
 16 no numbered pages or paragraphs. It's a section of 10:18:06
 17 your initial report. 10:18:08
 18 A. Summary Comments Re the Amended 10:18:20
 19 Complaint Document. 10:18:22
 20 Q. So you've got that? 10:18:22
 21 A. Yes, I do. 10:18:24
 22 Q. Now, do you see at the bottom of the 10:18:24
 23 next page you have some comments regarding West and 10:18:34
 24 Terry A. Messner? 10:18:40

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1 A. Uh-huh. 10:18:40
 2 Q. And the last sentence of this paragraph 10:18:42
 3 reads, "And both are in a non-peer-reviewed 10:18:46
 4 publications -- I guess that meant to say 10:18:50
 5 publication -- self-published by universities on 10:18:54
 6 the web and neither contain any original test 10:18:58
 7 research on ultrasound effects on rodents." Do you 10:19:00
 8 see that? 10:19:02
 9 A. Yes. 10:19:02
 10 Q. What does it mean for a publication to 10:19:02
 11 be peer-reviewed? 10:19:06
 12 A. To be peer reviewed means that you 10:19:08
 13 submit it to a proper journal or a group for 10:19:10
 14 proceedings of a conference and that it is sent out 10:19:14
 15 to other experts in the field to be looked over and 10:19:18
 16 all aspects of the paper to be evaluated for 10:19:22
 17 whether it warranted publication, whether the test 10:19:24
 18 designs were adequate, whether the sample size was 10:19:28
 19 adequate, whether statistics were proper, and those 10:19:30
 20 peers would then send back information to influence 10:19:34
 21 the editor whether or not it would be published. 10:19:40
 22 I do that and have for 24 years for five 10:19:44
 23 different journals including the Journal of 10:19:50
 24 Wildlife Management, Wildlife Society Bulletin, and 10:19:52
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1 all the publications in North America 10:19:56
 2 Ornithological Society. 10:20:00
 3 Q. So when you engaged in peer review of 10:20:00
 4 other people's proposed publications, you've 10:20:04
 5 reviewing them to confirm that they use the correct 10:20:08
 6 methodology, is that correct? 10:20:10
 7 A. Absolutely. 10:20:14
 8 Q. And that the methodology they're using 10:20:14
 9 is generally accepted in the field which they're 10:20:18
 10 publishing in, correct? 10:20:20
 11 A. Right, and most importantly that their 10:20:22
 12 conclusions match their data. 10:20:22
 13 Q. Okay. So do you believe that there is 10:20:26
 14 greater validity to a peer-reviewed publication. 10:20:38
 15 than there is to a non-peer-reviewed publication? 10:20:40
 16 MR. OSTOJIC: Object to form, foundation, but 10:20:44
 17 go ahead and answer. 10:20:46
 18 BY MR. KOPPEL: 10:20:46
 19 Q. You know what, actually let me rephrase 10:20:46
 20 it. Do you believe that the data produced from a 10:20:48
 21 peer-reviewed publication is more reliable than the 10:20:52
 22 data produced from a non-peer-reviewed publication? 10:20:54
 23 MR. OSTOJIC: Same objections, but go ahead. 10:20:58
 24 THE WITNESS: Go ahead? 10:21:02
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1 MR. OSTOJIC: Answer. 10:21:02
 2 BY MR. KOPPEL: 10:21:02
 3 Q. You can answer. 10:21:04
 4 A. Oh, okay. I would have to say that that 10:21:04
 5 is the general opinion held by scientists. On a 10:21:06
 6 paper by paper basis, you have to look at the 10:21:12
 7 volume of data, the tests, and even a 10:21:16
 8 non-peer-reviewed paper can be important if they've 10:21:20
 9 done everything correctly. 10:21:24
 10 Q. So why did you raise the point here that 10:21:26
 11 these studies are in non-peer-reviewed 10:21:36
 12 publications? 10:21:40
 13 A. Because that means there is reason to 10:21:40
 14 question that they've actually contributed valid 10:21:44
 15 information. Ever since the Internet came aboard 10:21:46
 16 people have been publishing papers on their own 10:21:50
 17 whim and putting them out there on the web. That's 10:21:58
 18 the lowest and least reliable level. If they're 10:22:02
 19 fully vetted and approved by your faculty of your 10:22:06
 20 department and peers, it's up at the top level. 10:22:10
 21 It is becoming far more common to 10:22:18
 22 publish initially on the Internet just to be able 10:22:20
 23 to get things out there and in print faster, but 10:22:26
 24 that doesn't make it better. 10:22:28
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1 Q. Now, I've reviewed Exhibit 1, and would 10:22:30
 2 you agree that it's your opinion that the -- let me 10:22:42
 3 rephrase. 10:22:48
 4 Is it your opinion that the Bell & 10:22:50
 5 Howell ultrasonic pest repellents are effective to 10:22:50
 6 repel and drive out mice and rats? 10:22:54
 7 A. Absolutely, yes. 10:22:58
 8 Q. Okay. 10:22:58
 9 A. The qualification is the driving out 10:23:02
 10 which is something which Dr. Pinter has set as his 10:23:04
 11 standard, and it only applied in test environments 10:23:12
 12 where the mice cannot leave because they've closed 10:23:14
 13 all exits, but the repellents are effective at 10:23:18
 14 moving the animals out of the sound range of those. 10:23:26
 15 Q. Are the repellents effective to drive 10:23:30
 16 mice and rats out of a house? 10:23:34
 17 MR. OSTOJIC: Object to form, foundation, but 10:23:38
 18 go ahead. 10:23:40
 19 BY THE WITNESS: 10:23:42
 20 A. That's not what they've ever claimed 10:23:42
 21 they can do. 10:23:44
 22 BY MR. KOPPEL: 10:23:44
 23 Q. Okay. 10:23:44
 24 A. You can't drive things out that are out 10:23:46
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1 of the range of the frequency or behind walls and 10:23:50
 2 under floors where the sound can't reach them or in 10:23:54
 3 his own nests under a cardboard box which stops the 10:24:00
 4 sound. 10:24:02
 5 There are limitations, and those are 10:24:04
 6 acknowledged on the packaging of the B & H 10:24:06
 7 repellers. He set an impossible standard when he 10:24:10
 8 says he wants them driven out of the house. If 10:24:22
 9 you've closed the place completely as they thought 10:24:24
 10 they had done in Modesto, they can't leave, so how 10:24:26
 11 can they be driven out if you close the door? 10:24:30
 12 Q. Okay, and I appreciate your criticism 10:24:32
 13 towards the study, and my questions are actually 10:24:34
 14 geared not towards the studies performed but what 10:24:36
 15 the capabilities are in the real world. 10:24:40
 16 A. The capabilities that I've seen are they 10:24:44
 17 can keep mice from entering your house, they can 10:24:46
 18 get mice that are there to leave if they're used 10:24:50
 19 correctly, adequate numbers in the right places. 10:24:54
 20 Q. They can get them to leave certain 10:24:58
 21 areas, but they can't get them to leave the entire 10:25:00
 22 house, is that correct? 10:25:02
 23 MR. OSTROM: Object to form as to house, but 10:25:02
 24 go ahead. 10:25:04

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1 BY THE WITNESS: 10:25:08
 2 A. Well, I haven't taken down any house to 10:25:08
 3 find out if there are any hiding in the walls 10:25:10
 4 anywhere; but when you don't see any of them in the 10:25:12
 5 house for year on end and you don't find any 10:25:14
 6 droppings on the counters or on the floors and 10:25:18
 7 there are no beds chewed and no pillows chewed, 10:25:20
 8 there are probably no mice in your house, no food 10:25:24
 9 is damaged, there is nothing -- no evidence to 10:25:26
 10 indicate they're there. I'd say that repelled 10:25:30
 11 them. 10:25:32
 12 Q. And you're talking about the Transonic 10:25:34
 13 Pro right now, correct? 10:25:36
 14 A. Yes. 10:25:36
 15 Q. Would you agree that in houses mice can 10:25:38
 16 typically nest behind walls or underneath floors? 10:25:46
 17 A. Absolutely. 10:25:50
 18 Q. How about behind a refrigerator? 10:25:50
 19 A. Absolutely. 10:25:54
 20 Q. How about behind a couch? 10:25:54
 21 A. Yep, or in it. 10:25:56
 22 Q. Could the ultrasonic sound waves reach 10:25:58
 23 behind a couch? 10:26:04
 24 A. At the floor level, it depends whether 10:26:08

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1 the couch is right down there, but most couches are 10:26:12
 2 six inches off the floor from the bottoms of the 10:26:14
 3 seats; and, yeah, they'll get behind it because 10:26:18
 4 mice tend to work right along the baseboards. The 10:26:20
 5 main thing is as long as you can keep them out of 10:26:26
 6 areas where there is any food or water, there is no 10:26:28
 7 real attraction for the mice. They need those 10:26:34
 8 things to survive. 10:26:42
 9 Q. So in reviewing Exhibits 1 and 2, and 10:27:02
 10 I'm referring specifically to studies that you are 10:27:10
 11 relying on in your opinion that the Bell & Howell 10:27:14
 12 repellers are effective against rats and mice, I 10:27:18
 13 saw that you are relying on tests conducted in 10:27:24
 14 China in 2011 and 2014? 10:27:28
 15 A. Yes. 10:27:32
 16 Q. I saw that you included two of your own 10:27:32
 17 studies regarding the Transonic Pro? 10:27:36
 18 A. Correct. 10:27:38
 19 Q. Any other studies that you're relying 10:27:38
 20 on? 10:27:42
 21 A. Not that I have direct information on. 10:27:44
 22 I know that the units like these had been approved 10:27:50
 23 for use in Canada on the basis of very tough field 10:27:56
 24 testing requirements, and they are sold there. 10:28:00

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1 There has to be publications on that, and Diane 10:28:04
 2 Feinstein indicated that they had done previous 10:28:10
 3 tests for other manufacturers, purveyors of 10:28:12
 4 ultrasound units, and so those tests are out there, 10:28:18
 5 but in published form, not necessarily. 10:28:22
 6 Q. And the tests that Ms. Feinstein ran on 10:28:26
 7 the devices from other manufacturers, do you think 10:28:32
 8 those can support your conclusion? 10:28:36
 9 A. Those were -- the devices were 10:28:38
 10 essentially the same. The only thing that she did 10:28:42
 11 was she manufactured or tested and designed them, 10:28:44
 12 they were sold in different markets, but they 10:28:48
 13 were the same products with the exception that they 10:28:52
 14 raised the amplitude of the sound decibel level of 10:28:54
 15 it for the ones that are used by Bell & Howell, 10:28:58
 16 brought it up another 20 decibels, so they are the 10:29:02
 17 ones that are used by Bell & Howell in her tests. 10:29:10
 18 Q. But you've not seen those tests, 10:29:14
 19 correct? 10:29:16
 20 A. I've seen the design of them, I've seen 10:29:16
 21 the results of them. 10:29:20
 22 Q. Which tests? 10:29:20
 23 A. The ones that she did or had done by 10:29:22
 24 Intellic. 10:29:22

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1	Q. Intellect.	10:29:32	1	Q. Do you see here right after the title at	10:32:10
2	A. Intellect.	10:29:34	2	the bottom of the page, the last sentence, it says,	10:32:14
3	MR. OSTOJIC: No, Intellect.	10:29:34	3	"But in this day of fake news, we should also	10:32:16
4	BY THE WITNESS:	10:29:36	4	recognize that there are also dozens of studies	10:32:20
5	A. Intellect, excuse me.	10:29:36	5	that show -- I think that should say that --	10:32:22
6	MR. OSTOJIC: SGS?	10:29:38	6	ultrasound can and does work when used correctly	10:32:26
7	THE WITNESS: Yeah, and SGS.	10:29:40	7	within the limits of its sound intensity and	10:32:28
8	BY MR. KOPEL:	10:29:40	8	hearing frequency range of pests targeted," do you	10:32:32
9	Q. Okay. Are those listed in your report?	10:29:40	9	see that?	10:32:34
10	A. Yes.	10:29:42	10	A. I do.	10:32:36
11	Q. Are you referring to the 2011 and 2014	10:29:42	11	Q. Can you please list the dozens of	10:32:36
12	tests?	10:29:46	12	studies you're referring to?	10:32:42
13	A. Yes.	10:29:46	13	A. At the level of peer-reviewed things and	10:32:46
14	Q. Okay. Any other tests? Were you	10:29:48	14	officially recognized, no, they're not there. They	10:32:50
15	referring to tests other than those just now?	10:29:50	15	haven't been done. At the level of materials	10:32:52
16	A. No.	10:29:52	16	provided from all the different people who are	10:32:56
17	Q. Okay. But you've not seen the tests	10:29:52	17	selling these things, they reference small scale	10:33:00
18	that she ran on the devices of other manufacturers.	10:30:00	18	studies or go back to some anecdotal evidence.	10:33:02
19	right?	10:30:02	19	They're not there, but they're not valid, but	10:33:12
20	A. No, I've not.	10:30:04	20	neither are most of the things that Dr. Potter had	10:33:14
21	Q. How are you aware of the Canadian	10:30:04	21	used in his references.	10:33:18
22	approval of these devices?	10:30:08	22	MR. OSTOJIC: Potter.	10:33:20
23	A. By talking to Dr. Luc Duchesne of	10:30:08	22	BY THE WITNESS:	10:33:20
24	Toronto -- no, not Toronto -- Quebec.	10:30:24	24	A. Potter, excuse me. Most of his	10:33:20
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1	Q. Did you review any documents in	10:30:30	1	references used very small scale tests. They're	10:33:26
2	connection with reaching your conclusion that these	10:30:36	2	published only because they had the contact with	10:33:30
3	devices were approved for use in Canada?	10:30:38	3	the people in that field of entomology to be able	10:33:32
4	A. He is the person who got them through	10:30:42	4	to get a small and questionable sample published.	10:33:38
5	the Canadian process of approval, and so he told me	10:30:44	5	BY MR. KOPEL:	10:33:44
6	the manner in which it was done.	10:30:50	6	Q. Okay. And I appreciate you have a lot	10:33:44
7	Q. Okay. So it was done -- I'm sorry to	10:30:50	7	of criticisms towards Dr. Potter, and we'll get to	10:33:44
8	interrupt you. I think I'm about to ask the	10:30:54	8	that.	10:33:48
9	question you're about to say. So he communicated	10:30:56	9	A. Right.	10:33:48
10	this to you orally, but you didn't review any	10:30:58	10	Q. Okay. I'm just trying to stay organized	10:33:48
11	documents in connection with this, is that correct?	10:31:00	11	here and focus on what you wrote here.	10:33:50
12	A. Correct.	10:31:02	12	A. I think that you would find that to have	10:33:52
13	Q. Okay. Have you seen any peer-reviewed	10:31:02	13	been a slip of my keys when I did that.	10:33:54
14	studies showing that ultrasonic devices are	10:31:08	14	Q. Okay. So you can't identify dozens of	10:33:58
15	effective to repel or drive out mice and rats?	10:31:12	15	studies?	10:34:00
16	A. Well, two halves to that comment; we, I	10:31:22	16	A. No, I don't think I meant to say that	10:34:00
17	have not, and one of the classic statements of	10:31:26	17	because I know that I couldn't come up with that	10:34:02
18	science is that absence of evidence is not evidence	10:31:30	18	information.	10:34:04
19	of absence. You don't have there until somebody	10:31:34	19	Q. Is this statement fake news?	10:34:04
20	does the test correctly.	10:31:38	20	A. Could be, unintentional probably	10:34:08
21	Q. Can you please look back at the section	10:31:50	21	because, if I'm not mistaken, that line got	10:34:12
22	we were looking at, Exhibit 1, summary comments	10:32:00	22	repeated somehow coming in below.	10:34:14
23	regarding the amended complaint.	10:32:04	23	Q. Okay. And the same question for	10:34:16
24	A. Right.	10:32:10	24	insects, have you reviewed any peer-reviewed	10:34:24
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1 studies showing that ultrasonic technology is 10:34:26	1 A. I'm not criticizing the test. 10:37:06
2 effective to repel or drive out insects? 10:34:32	2 Q. Let me just finish my question, please. 10:37:08
3 A. Not to the best of my knowledge, nothing. 10:34:40	3 A. Sure. 10:37:10
4 I can pull off the top of my head. 10:34:42	4 Q. At a fundamental level, I just want to 10:37:10
5 Q. Now, in this section I think you talk a 10:34:48	5 discuss the concept of habituation, and we can get 10:37:14
6 lot about mice adapting to tolerate ultrasonic 10:34:56	6 to that later, okay. The concept of habituation, 10:37:16
7 sound. Do you see that? 10:35:06	7 does it mean that mice and rats will become used to 10:37:18
8 And just to focus you, there are some 10:35:08	8 ultrasound and that ultrasound will fail to repel 10:37:22
9 bold portions at the next page; "In my research 10:35:12	9 or drive them out? Is that what habituation means? 10:37:24
10 over the course of a full year of constant exposure 10:35:16	10 MR. OSTOJIC: Object to form and foundation, 10:37:26
11 to the sound of Transonic Pro, there is no sign the 10:35:18	11 but go ahead. 10:37:28
12 mice adapted to tolerate the sounds," do you see 10:35:24	12 BY MR. KOPPEL: 10:37:28
13 that? 10:35:24	13 Q. Go ahead. 10:37:30
14 A. Yes. 10:35:24	14 A. Okay. In the case of any animal, if 10:37:30
15 Q. And then the next bold passage below. 10:35:24	15 they have not habituated to a stimulus, a foreign 10:37:36
16 you know, only a single line or two about mice and 10:35:28	16 stimulus which is distressful, it keeps their 10:37:40
17 rats quickly learning to ignore the sound, do you 10:35:32	17 metabolism high, it causes stress disease and 10:37:46
18 see that? 10:35:34	18 eventually death, so you have two choices. You can 10:37:48
19 A. I do. 10:35:34	19 continue to respond to that stimulus, or you can 10:37:50
20 Q. Okay. Is that concept called 10:35:34	20 adapt to tolerating it when you realize that it is 10:37:58
21 habituation? 10:35:36	21 not actually harming you, but that's -- as long as 10:38:00
22 A. It is, and I went on and gave several 10:35:38	22 you have a means to get away from it, that's the 10:38:06
23 references for what habituation is and where it 10:35:40	23 first option you'd use. 10:38:08
24 occurs in the second document in response to his 10:35:42	24 Q. Okay. And Dr. Whifford, I know you're 10:38:10
Page 38	Page 40
1 claiming that I completely ignored it. 10:35:46	1 doing your best to respond to the question and 10:38:14
2 Habituation is an important part of any 10:35:50	2 you're explaining how habituation works, but I 10:38:16
3 animal. If you can't escape from a highly 10:35:54	3 just -- I want to focus on what habituation is. 10:38:20
4 intrusive and/or painful sound, the best you can do 10:35:58	4 Can you please explain what habituation is, just 10:38:24
5 is find a way to habituate. Now, there is two ways 10:36:02	5 the concept of what is habituation? 10:38:26
6 to do that. Neurologically in most cases the 10:36:06	6 A. It's actually defined right on the page 10:38:30
7 neurotransmitters run out in your nerves after 10:36:10	7 in there in the second one as when subjected to 10:38:34
8 prolonged exposure to the same sensations. That's 10:36:14	8 continued stressor or sound, reaching a point where 10:38:40
9 why you're not aware of every twitch of every hair 10:36:16	9 you no longer respond by attempting to avoid it 10:38:48
10 on your face. You're used to having that feedback, 10:36:20	10 because you can't. 10:38:52
11 it's damped out, it's sorted out, and it's kept so 10:36:24	11 Q. Okay. And in the peer-reviewed studies 10:38:52
12 you can keep aware of new information, new stimuli. 10:36:28	12 you've reviewed concerning ultrasound, you've seen 10:38:58
13 Q. Now, the concept of habituation, does 10:36:32	13 that habituation has occurred with regards to the 10:39:02
14 that mean that mice and rats maybe initially -- 10:36:36	14 noise and rats to those tests, correct? 10:39:06
15 after regular exposure to ultrasound will learn to 10:36:46	15 MR. OSTOJIC: Object to form and foundation. 10:39:08
16 ignore the sound and not be repelled by it? 10:36:50	16 BY MR. KOPPEL: 10:39:08
17 MR. OSTOJIC: Object to form, foundation. 10:36:52	17 Q. You may answer. 10:39:12
18 BY MR. KOPPEL: 10:36:52	18 A. The design of the tests left no other 10:39:14
19 Q. Does it mean that? 10:36:56	19 option. 10:39:16
20 A. It means they have to do that if they 10:36:56	20 Q. So the answer is yes? 10:39:18
21 can't escape it. 10:37:00	21 A. Yeah, they couldn't escape. 10:39:18
22 Q. Okay, fair. And I understand that 10:37:00	22 MR. OSTOJIC: Are you referring to the tests 10:39:24
23 you're criticizing certain test designs. The 10:37:04	23 they did, or I think his question was concerning -- 10:39:26
24 trying to -- 10:37:06	24 BY THE WITNESS: 10:39:28
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1 A. No in general, the other tests. 10:39:28
 2 MR. OSTOJIC: Okay. 10:39:30
 3 BY MR. KOPPEL: 10:39:42
 4 Q. What steps need to be taken in order to 10:39:42
 5 prevent habituation from occurring when using 10:39:54
 6 ultrasound? 10:39:58
 7 A. You need to have a means for the animal 10:40:02
 8 to get away from the source of the sound 10:40:04
 9 permanently. If they can't hear it, you know, then 10:40:08
 10 it's not distressing their system. 10:40:18
 11 Q. I'd like to please talk to you about 10:40:28
 12 your Bird-X studies. Now, you've attached two 10:40:32
 13 studies here, one concerning bats and the other 10:40:36
 14 concerning mice, is that correct? 10:40:40
 15 A. Correct. 10:40:42
 16 Q. Okay. First, with regards to the bats 10:40:42
 17 study, is it your contention that this study 10:40:46
 18 concluding that the Transonic Pro was effective to 10:40:54
 19 repel bats supports your conclusion that the 10:40:58
 20 Bell & Howell devices are effective to repel and 10:41:06
 21 drive out mice and rats? 10:41:08
 22 A. I'd have to say that on reviewing it, 10:41:14
 23 the Transonic Pros used for the bats were set on a 10:41:18
 24 loudness setting of 2 which means they were also 10:41:24

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1 producing some sonic frequencies, and I hadn't 10:41:28
 2 known that until I went back and reviewed the 10:41:30
 3 literature on those devices. In the mouse tests, 10:41:32
 4 they were always set on 1 which by definition used 10:41:36
 5 only sounds above 20,000 cycles per second or 20 10:41:40
 6 kilohertz. 10:41:46
 7 Q. And the Bell & Howell repellents, they 10:41:46
 8 don't use sonic sound, is that correct? 10:41:52
 9 A. They do not, only sounds from 20,000 to 10:41:56
 10 45,000 cycles per second. 10:42:02
 11 Q. So can you actually please explain what 10:42:04
 12 the difference is in the simplest terms you can 10:42:06
 13 between sonic sound and ultrasonic sound? 10:42:08
 14 A. We use an arbitrary delineation point 10:42:12
 15 based on human hearing. If it's above the level we 10:42:14
 16 can hear, it's considered ultrasound. So we use 10:42:18
 17 that baseline of 20,000 to 21,000 cycles per second 10:42:22
 18 wavelength, number of waves per second passing 10:42:26
 19 point as the distinction. 10:42:30
 20 At the bottom end of the sound 10:42:34
 21 frequencies, we have infrasound which is below 8 10:42:36
 22 cycles per second, something elephants communicate 10:42:40
 23 with that we can't hear, so both ends of that 10:42:44
 24 spectrum of sonic sound are the ones we can't hear. 10:42:48

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1 Q. So does sonic sound operate on a 10:42:50
 2 different frequency than ultrasonic sound, is that 10:42:54
 3 the distinction? 10:42:58
 4 A. It's a continuum of wavelength from 10:42:58
 5 beginning to end, but it's the point we've 10:43:02
 6 arbitrarily said, well, we can't hear it, so it's 10:43:06
 7 not sonic, and that's literally what defines it 10:43:10
 8 because that's when they first were working with 10:43:16
 9 sound, they said I can't hear this, it must be 10:43:20
 10 above my hearing range, sonic is referring to our 10:43:24
 11 hearing range 10:43:26
 12 Q. Forgive my ignorance. So are certain 10:43:28
 13 frequencies considered ultrasonic and other 10:43:36
 14 frequencies are considered sonic, is that correct? 10:43:38
 15 A. Yes. Anything above 20,000 to 21,000 10:43:40
 16 cycles per second is ultrasonic. 10:43:44
 17 Q. Got it. Thank you. I think this is 10:43:46
 18 what you were saying before, correct me if I'm 10:43:52
 19 wrong, is what you were saying earlier that your 10:43:54
 20 study regarding the Transonic -- use of Transonic 10:44:00
 21 Pro on bats was insufficient to support your 10:44:06
 22 conclusion -- let me just finish -- regarding the 10:44:12
 23 Bell & Howell devices because it included sonic 10:44:14
 24 sound in addition to ultrasonic sound, is that 10:44:16

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1 correct? 10:44:20
 2 MR. OSTOJIC: Object to form. Go ahead. 10:44:20
 3 BY THE WITNESS: 10:44:22
 4 A. At least part of the tests were done 10:44:22
 5 using the number 2 setting, and I'd have to go back 10:44:24
 6 to my original notes and find out what was done on 10:44:30
 7 the number 1 setting, the ultrasound versus the 10:44:32
 8 sonic. They were large buildings, of course, but, 10:44:38
 9 yeah, in this case, I'd have to go back and find 10:44:44
 10 that information up, so it's less relevant to the 10:44:48
 11 study. 10:44:52
 12 Q. What about the fact that that test was 10:44:54
 13 conducted on bats rather than rodents, would that 10:44:54
 14 have been an issue? 10:45:00
 15 A. We're looking for any sign that 10:45:06
 16 ultrasound works against anything basically. 10:45:08
 17 They've said that it has no efficacy in any case. 10:45:12
 18 Q. So is it your opinion that tests showing 10:45:16
 19 that ultrasound is effective or ineffective as to 10:45:24
 20 one species can support a conclusion of 10:45:26
 21 effectiveness or ineffectiveness as to another 10:45:30
 22 species, is that correct? 10:45:32
 23 MR. OSTOJIC: Object to form, foundation. 10:45:34
 24 BY MR. KOPPEL: 10:45:34

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1 Q. Actually, I think I'm misusing the word 10:45:36
 2 species. Swap the word species with animal. 10:45:40
 3 MR. OSTOJIC: Same objections. 10:45:42
 4 THE WITNESS: You want me to go ahead and 10:45:44
 5 answer? 10:45:44
 6 MR. OSTOJIC: Yeah, go ahead. 10:45:44
 7 BY THE WITNESS: 10:45:46
 8 A. Okay. Sound and repelling animals with 10:45:46
 9 sound is going to depend entirely on the hearing 10:45:52
 10 range which is known for any individual species 10:45:56
 11 that you're going to test it upon. Rats can hear 10:45:58
 12 up to 140,000 cycles per second. We know that the 10:46:02
 13 range of mice and rats includes ultrasound and that 10:46:06
 14 they regularly communicate with their pups and each 10:46:08
 15 other in that frequency. 10:46:12
 16 If you're going to try this against a 10:46:14
 17 bear, for evolutionary reasons I'd be willing to 10:46:16
 18 bet his hearing range doesn't go above 8,000 10:46:20
 19 because there is nothing he needs to find which is 10:46:24
 20 ultrasound. 10:46:28
 21 BY MR. KOPEL: 10:46:28
 22 Q. With regards to your mice study, do you 10:46:28
 23 feel comfortable saying that that can support the 10:46:32
 24 same conclusion regarding efficacy as to rats? 10:46:38

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1 A. I have not tested on rats, but since the 10:46:44
 2 Bell & Howell's have shown efficacy against both 10:46:48
 3 and the Chinese questions without question, I would 10:46:52
 4 say that it should. 10:46:54
 5 Q. Okay. And what about the -- but do you 10:46:56
 6 think that your Transonic Pro study regarding mice 10:46:58
 7 supports your conclusion that the Bell & Howell 10:47:04
 8 ultrasonic devices are effective against rats? 10:47:08
 9 A. Without testing it myself, I won't go 10:47:12
 10 there. 10:47:14
 11 Q. Okay. Is the answer no? 10:47:14
 12 A. It means I don't know the answer because 10:47:16
 13 I haven't done those tests. 10:47:20
 14 Q. Fair enough, okay. Were you involved in 10:47:22
 15 designing the Transonic Pro? 10:47:28
 16 A. Not at all. 10:47:30
 17 Q. Was the device already being sold on the 10:47:32
 18 market at the time you tested it? 10:47:34
 19 A. Yes. 10:47:36
 20 Q. Were you hired for purposes of claim 10:47:38
 21 substantiation? 10:47:42
 22 MR. OSTOJIC: Object to form. Go ahead. 10:47:44
 23 BY THE WITNESS: 10:47:48
 24 A. I'm not so much -- I guess that's what 10:47:48

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1 they were asking for. They just asked me to find 10:47:52
 2 out whether it worked or not and to have 10:47:54
 3 them -- you know, get back to them; if it didn't 10:47:58
 4 work, they didn't want to be making those claims. 10:48:02
 5 so I guess that's what you are referring to. 10:48:04
 6 BY MR. KOPEL: 10:48:06
 7 Q. So they were hoping to gather data in 10:48:06
 8 order to support the claims that they were making. 10:48:08
 9 is that correct? 10:48:10
 10 A. Probably. I didn't ask. 10:48:10
 11 Q. But that makes sense, right? 10:48:12
 12 A. Yes. 10:48:14
 13 MR. OSTOJIC: Object to the form. 10:48:14
 14 BY MR. KOPEL: 10:48:14
 15 Q. When was the Transonic Pro -- when did 10:48:18
 16 it begin being sold? 10:48:22
 17 A. I don't know the specific date. 10:48:24
 18 Probably sometime in the mid nineties. 10:48:30
 19 Q. Okay. So it's been on the market for 10:48:34
 20 decades now? 10:48:36
 21 A. Yes. 10:48:36
 22 Q. Can you please turn to page 11 of 10:49:00
 23 Exhibit 2? Let me know when you're there. 10:49:02
 24 A. Okay. 10:49:12

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1 Q. Okay. On the third paragraph of page 11 10:49:16
 2 here, you reference findings by Dr. Richard Mankin, 10:49:20
 3 do you see that? 10:49:24
 4 A. Yes. 10:49:26
 5 Q. Are you familiar with Dr. Richard 10:49:26
 6 Mankin? 10:49:28
 7 A. Only from what I've seen from 10:49:30
 8 Dr. Potter's. 10:49:32
 9 Q. So before this case, you never heard of 10:49:34
 10 him? 10:49:36
 11 A. No. 10:49:36
 12 Q. Do you accept Dr. Mankin's findings? 10:49:38
 13 MR. OSTOJIC: Object to form, foundation. 10:49:40
 14 BY THE WITNESS: 10:49:44
 15 A. I would have little reason to doubt 10:49:44
 16 them. He had scientific equipment that tests 10:49:46
 17 amplitude frequency of sounds and only relayed what 10:49:48
 18 he found from the various devices. Unless he were 10:49:52
 19 consciously falsifying it, there is no reason to 10:49:58
 20 doubt him. 10:50:00
 21 BY MR. KOPEL: 10:50:00
 22 Q. Can you please look at the last 10:50:00
 23 paragraph on page 11? So beginning with the second 10:50:10
 24 sentence of the last paragraph, it reads -- these 10:50:20

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1 are kind of long sentences. 10:50:24
 2 A. Yes, I'm sorry, I do run-on sentences. 10:50:26
 3 Q. I can say with certainty -- you know 10:50:28
 4 what, this is all one sentence. I'm going to start 10:50:30
 5 from the middle of the first sentence. 10:50:36
 6 A. Okay. 10:50:36
 7 Q. "I can say with certainty that the sound 10:50:38
 8 frequency and amplitudes produced by the Transonic 10:50:40
 9 Pro sound units used in this study matches 10:50:42
 10 perfectly with the sound qualities of the B & H 10:50:46
 11 UPRs as described by both the B & H literature and 10:50:50
 12 Dr. Mankin's tests of the B & H models. Therefore, 10:50:56
 13 since the sound spectrum and force of all these 10:50:58
 14 ultrasound devices was the same, the B & H UPRs 10:51:02
 15 should have been just as successful as the 10:51:06
 16 Transonic Pro device I tested if used correctly and 10:51:10
 17 in accordance with the packaging instructions." Do 10:51:12
 18 you see that? 10:51:16
 19 A. Yes. 10:51:16
 20 Q. I read it accurately? 10:51:18
 21 A. You did. 10:51:18
 22 Q. Can you just please define what the 10:51:18
 23 letters UPR are meant to stand for? 10:51:24
 24 A. Ultrasonic pest repeller. 10:51:26

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1 Q. Thanks. I know that was an obvious 10:51:30
 2 question, but sometimes these things are just for 10:51:30
 3 the record. 10:51:30
 4 And when you say sound spectrum in that 10:51:38
 5 last sentence, is that referring to frequency? 10:51:42
 6 A. The range of frequency from lowest to 10:51:44
 7 highest. 10:51:46
 8 Q. And when you say force, is that 10:51:48
 9 referring to decibels? 10:51:50
 10 A. Decibels. 10:51:50
 11 Q. Okay, thank you. So did you make a 10:51:52
 12 determination that your findings as to the 10:51:58
 13 Transonic Pro unit were transferable to the 10:52:02
 14 Bell & Howell repellers on the basis that they had 10:52:08
 15 the same frequency spectrum and decibel levels? 10:52:10
 16 MR. OSTOJC: Object to form. 10:52:14
 17 BY THE WITNESS: 10:52:18
 18 A. Yes. There is really no other way to 10:52:18
 19 determine the difference between them. If they 10:52:20
 20 have those things, they have the same sound 10:52:22
 21 properties, and Dr. Mankin was good enough to give 10:52:26
 22 me that information. 10:52:34
 23 BY MR. KOPEL: 10:52:42
 24 Q. Now, the Transonic Pro has two speakers 10:52:42

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1 in it, is that correct? 10:52:50
 2 A. One. 10:52:52
 3 Q. Okay. Can you help me with the 10:52:52
 4 terminology, please? On the outside, there is two 10:52:56
 5 things that people would call speakers, they have 10:53:00
 6 the holes, the sound comes out of them. Are you 10:53:02
 7 referring to a different -- 10:53:06
 8 A. It's a different unit. 10:53:06
 9 Q. Different unit. 10:53:08
 10 MR. OSTOJC: Object to form. 10:53:08
 11 MR. KOPEL: Let's use some documents and maybe 10:53:10
 12 that can help us. I'll ask the Court Reporter to 10:53:12
 13 please mark as Exhibits Whitford 3 and 4 these two 10:54:24
 14 documents we'll have the witness identify. 10:54:32
 15 (WHEREUPON, certain documents were 10:54:32
 16 marked Whitford Deposition Exhibit
 17 Nos. 3 and 4, for identification,
 18 as of 01/12/2018.)
 19 BY MR. KOPEL:
 20 Q. Dr. Whitford, do you have Exhibit 3? 10:55:20
 21 A. I do. 10:55:22
 22 Q. What is it? 10:55:22
 23 A. Transonic Pro image. 10:55:24
 24 Q. It's an image of the unit? 10:55:28

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1 A. Uh-huh. 10:55:30
 2 Q. Do you recognize this to be a printout 10:55:30
 3 of the Bid-X website? 10:55:32
 4 A. I do. 10:55:34
 5 Q. We'll get to it. And then do you have 10:55:36
 6 Exhibit No. 4? 10:55:38
 7 A. Yes. 10:55:38
 8 Q. Have you seen this before? 10:55:38
 9 A. Absolutely. 10:55:40
 10 Q. What is it? 10:55:40
 11 A. It's a description of the Transonic 10:55:42
 12 Pro's use, operation and sound settings. 10:55:46
 13 Q. Are these the instructions for the 10:55:56
 14 Transonic Pro? 10:55:58
 15 A. Yes. 10:56:00
 16 Q. Okay. Does Exhibit 3 refresh your 10:56:00
 17 recollection as to the construction of the 10:56:06
 18 Transonic Pro? 10:56:08
 19 A. It does. 10:56:08
 20 Q. Okay. How many speakers does the unit 10:56:08
 21 have? 10:56:10
 22 A. Two. 10:56:10
 23 Q. Now, would it give you pause to rely on 10:56:20
 24 results of testing for the Transonic Pro as to 10:56:26

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14 (Pages 50 - 53)

1 ultrasonic units that have only one speaker? 10:56:32
 2 A. It would not. 10:56:38
 3 Q. Why not? 10:56:40
 4 A. In all probability the two speakers are 10:56:44
 5 there because one is for the ultrasound and one 10:56:48
 6 produces sonic levels. Speakers are quite 10:56:50
 7 different in terms of the sounds that they produce. 10:56:54
 8 When I was testing ultrasound earlier on 10:57:00
 9 in the eighties, I regularly fired Piezo electronic 10:57:02
 10 speakers which were ultrasound speakers by boosting 10:57:16
 11 the amplitude a little too high as in burned them 10:57:18
 12 up because ultrasound uses different speakers to 10:57:24
 13 produce that. 10:57:32
 14 Q. You weren't involved in the construction 10:57:38
 15 of this unit, correct? 10:57:40
 16 A. No. 10:57:42
 17 Q. Okay. So when you say in all 10:57:42
 18 probability -- 10:57:44
 19 A. I have gone back -- 10:57:46
 20 Q. I'm sorry, let me just finish my 10:57:46
 21 question. Have you verified that, or are you 10:57:50
 22 speculating? 10:57:50
 23 MR. OSTOJC: Object to form. 10:57:52
 24 BY THE WITNESS: 10:57:52

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1 A. I have contacted Bied X and the 10:57:52
 2 manufacturer of it and double checked the sound 10:57:56
 3 frequencies produced at each setting according to 10:58:00
 4 them and the decibel levels being produced at each 10:58:02
 5 setting with them. 10:58:04
 6 BY MR. KOPEL: 10:58:06
 7 Q. Were those the only two material 10:58:06
 8 considerations in determining whether or not the 10:58:08
 9 results from the Transonic Pro were valid towards 10:58:12
 10 the Bell & Howell devices? 10:58:16
 11 A. Yes. 10:58:18
 12 Q. Do you see that the Transonic Pro has a 10:58:20
 13 metal casing on it? 10:58:22
 14 A. Yes. 10:58:24
 15 Q. Okay. And are you aware that 10:58:24
 16 Bell & Howell devices have a plastic casing? 10:58:26
 17 A. Yes. 10:58:30
 18 Q. Is that an issue? 10:58:32
 19 A. Not to the best of my knowledge because 10:58:34
 20 the sound moves out from the speaker/s, not back or 10:58:38
 21 around them. It's very directional. 10:58:44
 22 Q. Now, the Transonic Pro, I think you 10:58:50
 23 testified earlier that you think it was probably 10:58:52
 24 originally built about two decades ago, is that

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1 correct, or in the mid nineties? 10:59:04
 2 A. Mid to late nineties. 10:59:04
 3 Q. Okay. Now, is that an issue that the 10:59:06
 4 Transonic Pro was designed one to two decades 10:59:12
 5 before the Bell & Howell devices? 10:59:22
 6 MR. OSTOJC: Object to form. 10:59:24
 7 BY THE WITNESS: 10:59:30
 8 A. As long as the frequencies they're 10:59:30
 9 producing and the decibel levels they're producing 10:59:32
 10 are the same -- 10:59:36
 11 BY MR. KOPEL: 10:59:36
 12 Q. Yes. 10:59:38
 13 A. It doesn't make any difference really 10:59:38
 14 when you made them. Components, post '95, 10:59:40
 15 construction, other than the difference between 10:59:50
 16 metal and plastic housings, is not that different. 10:59:54
 17 Q. Are the size of the speakers the same on 10:59:56
 18 the Transonic Pro as the Bell & Howell devices? 10:59:58
 19 A. Transonic Pros have a slightly smaller 11:00:00
 20 speaker. 11:00:02
 21 Q. Does that make a difference? 11:00:04
 22 A. Not if the decibel level and the 11:00:04
 23 frequencies correspond. 11:00:08
 24 Q. Does the Transonic Pro use a 11:00:10

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1 solid -- oh, I'm sorry to interrupt you. 11:00:14
 2 A. That's just one of the examples of the 11:00:16
 3 change in the equipment over time since the sixties 11:00:18
 4 to seventies, eighties, nineties. We're getting 11:00:20
 5 smaller units just like you can now do on your cell 11:00:24
 6 phone what you used to do on the IBM 360. 11:00:28
 7 Q. Would you agree that even though 11:00:30
 8 certain, you know, physical aspects of the 11:00:36
 9 Transonic Pro are different than certain physical 11:00:42
 10 aspects of the Bell & Howell devices -- let me 11:00:44
 11 start the question over because I got confused. 11:00:48
 12 Would you agree that, even though 11:00:50
 13 certain, physical aspects of the Transonic Pro 11:00:52
 14 devices are different from physical aspects of the 11:00:54
 15 Bell & Howell devices, that the test results from 11:00:56
 16 the Transonic Pro are still transferable to the 11:01:04
 17 Bell & Howell devices solely because the frequency 11:01:10
 18 and amplitude are the same? 11:01:14
 19 A. Yes. 11:01:16
 20 MR. OSTOJC: Object to form, foundation. 11:01:18
 21 MR. KOPEL: You got the answer, right? 11:01:18
 22 THE COURT REPORTER: Yes. 11:01:18
 23 BY MR. KOPEL: 11:01:18
 24 Q. Okay. I'm almost done with this line of 11:01:20

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1	questioning, and then we can take a break, does	11:01:38	1	not sure exactly of the frequency which will	11:04:48
2	that sound good?	11:01:42	2	disturb the animal you're dealing with, when it	11:04:50
3	Okay, thanks.	11:01:43	3	runs through 25,000 cycles per second of	11:04:52
4	Can you please take a look at	11:01:46	4	fluctuation, you're going to catch all those places	11:05:00
5	Exhibit 3 -- no, 4, take a look at Exhibit 4. You	11:01:54	5	instead of if you just set it for 2,500 cycles per	11:05:02
6	see this design here, Figure 1, does that	11:02:12	6	second, it might be below or above the frequency of	11:05:08
7	accurately reflect what appears on the back side of	11:02:16	7	the animal, so the sweep patterns sometimes can be	11:05:12
8	the Transonic Pro unit?	11:02:22	8	more effective. It also carries -- the lower end	11:05:14
9	A. It does.	11:02:24	9	of it carries further than the high end of it, so a	11:05:18
10	Q. Okay. So there are different settings	11:02:24	10	steady 45,000 cycles per second would travel half	11:05:22
11	to choose for sound volume and for sound pattern,	11:02:30	11	the distance of a steady 22,000 cycles per second	11:05:26
12	is that correct?	11:02:34	12	because the attenuation of sound is related to the	11:05:30
13	A. Yes.	11:02:34	13	wavelength.	11:05:34
14	Q. Okay. And according to this chart, you	11:02:34	14	Q. So against that backdrop, can you please	11:05:34
15	should choose which settings to use based on which	11:02:40	15	explain sound pattern A, what that would be?	11:05:40
16	animals or which pests you're seeking to repel, is	11:02:46	16	A. I have no idea.	11:05:46
17	that correct?	11:02:50	17	Q. So do you --	11:05:48
18	A. That's what's implied.	11:02:50	18	A. I have specifically addressed Bird-X and	11:05:50
19	Q. Okay. So sound volume there is -- the	11:02:54	19	had them relay my question to the manufacturer.	11:05:54
20	options are quiet, medium and loud, correct?	11:03:06	20	I'm still waiting for a response to get that	11:05:58
21	A. Correct.	11:03:10	21	information exactly from the manufacturer.	11:06:02
22	Q. And is that because different animals	11:03:10	22	Q. And I'm assuming the answer is the same	11:06:04
23	require different decibel levels in order to be	11:03:12	23	for B and C, correct?	11:06:06
24	repelled?	11:03:18	24	A. Correct. Oh, wait -- yeah, sound	11:06:08
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1	A. Partially that, partially to allow for	11:03:18	1	patterns A, B and C, yeah, that's absolutely	11:06:12
2	better comfort levels for people and pests in a	11:03:24	2	correct for those.	11:06:16
3	house. If you can keep it from being audible to	11:03:28	3	Q. So you don't know --	11:06:16
4	you, it's not an irritation to you, it doesn't	11:03:30	4	A. I don't know if it's a sweep or a	11:06:18
5	upset your cat and your dog. If you have to go to	11:03:34	5	steady.	11:06:20
6	one of the audible frequencies, you're not going to	11:03:38	6	Q. And you don't know specifically what	11:06:20
7	like what you're hearing. You'd use it if you were	11:03:40	7	frequencies are represented by each of these	11:06:22
8	not occupying the same space it was.	11:03:48	8	either, do you?	11:06:24
9	Q. Are you referring to the loud setting?	11:03:48	9	A. All I know is that if it is on quiet, it	11:06:26
10	A. Yeah.	11:03:50	10	is supposed to be producing frequencies from 20,000	11:06:30
11	Q. Okay. And can you explain what sound	11:03:50	11	to 45,000 cycles per second, but I don't know that	11:06:32
12	pattern is, please?	11:03:56	12	it's producing at steady state, pulsing, sweep.	11:06:38
13	A. Well, by sound pattern there, what	11:03:58	13	Those are the three main options for the sound	11:06:42
14	they're referring to production of the sound	11:04:02	14	patterns; a steady state, you know, continual	11:06:44
15	itself. Sound patterns you can have a steady state	11:04:08	15	broadcast either of one frequency or the full	11:06:50
16	sound, just one frequency played continually; you	11:04:12	16	spectrum; pulsing, so it stops and starts.	11:06:52
17	can have an alternation between two or three	11:04:16	17	Q. Right.	11:06:56
18	frequencies, all of them ultrasonic or ultrasonic	11:04:18	18	A. Or the sweep up and down, up and down,	11:06:56
19	and sonic; you can have a fluctuating frequency	11:04:22	19	up and down. Pulsing is probably more effective	11:07:00
20	that sweeps up and down, from the base frequency to	11:04:28	20	against things like bats which are using clicks and	11:07:04
21	the top frequency. Those patterns may make a	11:04:32	21	chirps.	11:07:08
22	difference in an animal's response.	11:04:36	22	Q. Okay. And did -- is that a	11:07:08
23	Q. Why would they make a difference?	11:04:40	23	consideration that needs to be made in determining	11:07:16
24	A. Well, with the sweep pattern, if you're	11:04:44	24	whether or not the Transonic Pro study is	11:07:18
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1	translatable to the Bell & Howell devices, whether	11:07:24	1	Q. Have you seen documents saying that?	11:09:32
2	or not the Transonic Pro settings added a single	11:07:28	2	A. Yes.	11:09:34
3	state, pulsating, sweeping, et cetera?	11:07:32	3	Q. Okay. Did you consider those in forming	11:09:34
4	MR. OSTOJIC: Object to form. Go ahead.	11:07:34	4	your opinion?	11:09:36
5	BY THE WITNESS:	11:07:36	5	A. Yes.	11:09:36
6	A. I don't see that it matters in this case	11:07:36	6	Q. Are they listed in your report?	11:09:38
7	because both of them proved effective in moving	11:07:38	7	A. I've just recently gone back to the	11:09:42
8	rats and mice or moving mice.	11:07:42	8	manufacturer to get that information, so, no, they	11:09:46
9	BY MR. KOPPEL:	11:07:44	9	weren't listed there.	11:09:48
10	Q. When you say both of them, you mean	11:07:44	10	Q. So for quiet here, it says sounds that	11:09:50
11	Bell & Howell as well as Transonic Pro?	11:07:44	11	are primarily ultrasonic, do you see that?	11:09:54
12	A. Bell & Howell in its tests 2011 and 2014	11:07:48	12	A. Yes.	11:09:56
13	proved effective at moving rats and mice, the	11:07:52	13	Q. Okay. What do you understand the word	11:09:58
14	Transonic Pro has proved effective at moving mice,	11:07:54	14	primarily to mean?	11:10:00
15	so the pattern of the sound is apparently not	11:07:58	15	A. I tend to see it as hedging your bet a	11:10:02
16	important, the frequency is.	11:08:02	16	little bit. It means that it might be possible	11:10:04
17	Q. Is that true for mice and rats?	11:08:10	17	that it produces something in the sonic range	11:10:08
18	MR. OSTOJIC: Object to form.	11:08:14	18	accidentally. There is always -- sound production	11:10:10
19	BY THE WITNESS:	11:08:14	19	is an uncertain thing with equipment. No matter	11:10:14
20	A. Apparently from their tests, it works	11:08:14	20	how much you refine your stereo, you may still get	11:10:18
21	for rats. I have not personally tested those and	11:08:18	21	excess vibration and base and so forth coming	11:10:22
22	I'm always reluctant to.	11:08:20	22	through it.	11:10:24
23	BY MR. KOPPEL:	11:08:22	23	Q. Okay. So we're not entirely sure	11:10:26
24	Q. So you can't say whether the pattern is	11:08:22	24	whether or not some sonic sounds were coming	11:10:28
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1	important for rats?	11:08:24	1	through at the quiet setting, right?	11:10:30
2	A. The evidence that I've seen so far says	11:08:26	2	A. Well, by definition, if I couldn't hear	11:10:32
3	it is.	11:08:28	3	anything on it, there is no sonic.	11:10:34
4	Q. Okay. Now, can you please repeat -- you	11:08:30	4	Q. Okay. Would you agree with me that the	11:10:38
5	said for quiet, you said a range of cycles, right?	11:08:34	5	word primarily would mean for the most part or	11:10:42
6	A. For quiet setting, it produces a maximum	11:08:38	6	mainly?	11:10:46
7	frequency of 45,000 cycles per second or 45	11:08:42	7	MR. OSTOJIC: Object to form, foundation.	11:10:48
8	kilohertz. It produces a minimum sound at 20,000	11:08:48	8	BY THE WITNESS:	11:10:52
9	cycles per second or 20 kilohertz, that's entirely	11:08:52	9	A. That's its meaning.	11:10:52
10	ultrasound. There is no sonic component to it. I	11:08:58	10	BY MR. KOPPEL:	11:10:54
11	can put my head down next to the Transonic Pro and	11:09:02	11	Q. Okay. And by definition, right, if the	11:10:54
12	hear nothing when I've got it on in that setting.	11:09:06	12	word primarily is there, that's implying that there	11:10:56
13	Q. How do you know that?	11:09:08	13	is something else there as well, right?	11:10:58
14	A. I've put my head down and listened to	11:09:10	14	MR. OSTOJIC: Object to form, foundation.	11:10:58
15	it.	11:09:12	15	BY THE WITNESS:	11:11:00
16	Q. Sorry, I was asking that as to the	11:09:12	16	A. We often use words in our sentences to	11:11:00
17	figures you stated. For the quiet setting, how do	11:09:14	17	add just a little more meaning or variation to them	11:11:06
18	you know that?	11:09:18	18	which don't really have a substantive place in what	11:11:10
19	A. It says right here.	11:09:18	19	we're trying to say. Think of our president.	11:11:14
20	Q. Are those numbers listed here?	11:09:20	20	BY MR. KOPPEL:	11:11:20
21	A. Yes.	11:09:22	21	Q. So is it -- it's your belief that they	11:11:20
22	Q. So I must be missing them.	11:09:24	22	added the word primarily here for no reason?	11:11:28
23	A. Oh, it just says primarily ultrasonic,	11:09:28	23	MR. OSTOJIC: Object to form, foundation, may	11:11:32
24	but that's what that means.	11:09:30	24	call for speculation as to what the manufacturers	11:11:34
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1	did, but go ahead and answer.	11:11:38	1	course of your work as a consultant for Bird-X, you	11:14:02
2	BY THE WITNESS:	11:11:40	2	never mentioned to them that there was anything	11:14:06
3	A. Yeah, I think that it just allows if	11:11:40	3	inaccurate about this statement, correct?	11:14:08
4	somebody said, wait, it's making something I can	11:11:42	4	A. Not at all. I mean they're admitting	11:14:10
5	hear, you can say, okay, we did say primarily. It	11:11:46	5	that it doesn't penetrate hard surfaces, it doesn't	11:14:14
6	doesn't mean the unit is defective.	11:11:52	6	hold up the decibel level, the sound forces in soft	11:14:18
7	BY MR. KOPEL:	11:11:52	7	surfaces, carpeting, couches other things will	11:14:24
8	Q. Okay. But you would -- and I'm going to	11:11:52	8	absorb that very quickly. Hard surfaces will	11:14:26
9	move off this real soon, but would you agree that	11:11:56	9	reflect the sound which they generally have failed	11:14:30
10	by the -- I understand that people might put things	11:12:00	10	to acknowledge in this.	11:14:32
11	in sometimes purposefully, but would you agree that	11:12:02	11	Q. So in a room with carpeting, would you	11:14:38
12	by the plain meaning of the word primarily implies	11:12:06	12	say that ultrasonic would struggle to be effective	11:14:40
13	that there is something else present?	11:12:08	13	because the carpet would absorb the sound?	11:14:46
14	MR. OSTOJC: Object, asked and answered, form	11:12:10	14	MR. OSTOJC: Object to form. Go ahead.	11:14:50
15	and foundation, but go ahead.	11:12:12	15	BY THE WITNESS:	11:14:52
16	BY THE WITNESS:	11:12:18	16	A. It will reduce the amplitude of the	11:14:52
17	A. I read it to mean that it should all be	11:12:18	17	sound with regard to the distance that it travels.	11:14:54
18	above -- every intentionally produced sound is to	11:12:22	18	Carpeting, any soft material, insulation and so	11:14:58
19	be above 20,000 cycles per second, but there is	11:12:28	19	forth greatly reduces the range that the sound can	11:15:04
20	always a possibility of some side product sound.	11:12:32	20	travel	11:15:06
21	Nothing is absolute in the realm of sound when	11:12:36	21	BY MR. KOPEL:	11:15:06
22	you're talking a few thousand or a few hundred	11:12:42	22	Q. And due to that, it could cause it to be	11:15:06
23	cycles per second.	11:12:42	23	ineffective in repelling and driving out rodents?	11:15:10
24	BY MR. KOPEL:	11:12:46	24	A. Yes. It's only good for the range that	11:15:12
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1	Q. And you've not seen test results	11:12:46	1	the sound can travel, and that's impacted by	11:15:14
2	indicating whether or not sonic sound is present at	11:12:50	2	anything including cardboard boxes.	11:15:16
3	the quiet setting, have you?	11:12:54	3	Q. Have you seen testing on this point?	11:15:18
4	A. I'm trying to remember whether Mankin	11:13:00	4	A. Yes.	11:15:20
5	tested it, T-Pro or not.	11:13:04	5	Q. Can you please describe that testing?	11:15:22
6	Q. Mankin did not test it.	11:13:06	6	A. Dr. Potter himself provided the	11:15:24
7	A. Okay, then I probably have not seen	11:13:06	7	reference for Gould 1984, Gould, et al., 1984.	11:15:30
8	that	11:13:08	8	They were testing five different brands of	11:15:36
9	Q. Okay. Almost done with this document	11:13:12	9	ultrasonic repellents, and their tests included	11:15:40
10	Okay. Can you please look at the	11:13:18	10	putting up a .3 centimeter barrier of cardboard.	11:15:42
11	section here which says about ultrasonic and sonic	11:13:20	11	and that reduced the effectiveness of sound by	11:15:50
12	sounds?	11:13:24	12	60 percent on the other side, the force of sound by	11:15:56
13	A. Uh-huh.	11:13:24	13	60 percent on the other side of that. Now, .3	11:15:58
14	Q. Do you see the second sentence says	11:13:26	14	centimeters is just over one-tenth of an inch	11:16:04
15	ultrasound cannot travel through walls or closed	11:13:30	15	thick. Most of our cardboard is two to three times	11:16:06
16	doors?	11:13:34	16	that.	11:16:08
17	A. Uh-huh.	11:13:34	17	Q. Do you suppose you would see the same	11:16:08
18	Q. Do you agree with that?	11:13:34	18	effect with wood?	11:16:10
19	A. Closed doors is a good question. It	11:13:38	19	A. Hard woods would actually tend to	11:16:14
20	depends where the unit is placed. In my case,	11:13:40	20	reflect sound on their surface, soft woods would	11:16:16
21	there is an inch gap under the back door in my	11:13:46	21	tend to absorb it.	11:16:20
22	hallway. It can get under that. You'd have to	11:13:50	22	Q. Okay. But either way it could not	11:16:20
23	have a securely sealed door to stop it.	11:13:52	23	penetrate it, is that correct?	11:16:22
24	Q. Okay. But you never -- I mean in the	11:13:54	24	A. Yes.	11:16:26
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1 Q. How about plaster? 11:16:28	1 anything like that, some of the sound might be 11:19:12
2 A. Plaster, good hard plaster and gypsum 11:16:30	2 reflected back, some only a small part comes 11:19:16
3 board with heavy layers of paint in my experience 11:16:36	3 around. 11:19:20
4 reflects the sound, bounces it into other 11:16:38	4 Q. So according to this concept, if a 11:19:20
5 directions, but it doesn't seem to damp the sound. 11:16:42	5 repeller is located in an outlet near a corner of a 11:19:28
6 Q. What about metal? 11:16:46	6 room, the sound waves would not be able to reach 11:19:32
7 A. Reflects it. The thing is to dampen the 11:16:48	7 around that corner, is that correct? 11:19:34
8 sound, you have to have the sound move the 11:16:54	8 A. Exactly. It's so directional that they 11:19:36
9 molecules and particles of what's there. Particles 11:16:56	9 should not. If it were facing a very solid, hard 11:19:40
10 of glass, particles of steel and such are so 11:17:00	10 smooth surface, like any other sound, there is 11:19:46
11 thoroughly bound together that they don't get to 11:17:04	11 going to be some bouncing off of that which might 11:19:48
12 move them. But in moving a wave of sound through 11:17:06	12 reduce the sound shadow, but, yes, it will 11:19:54
13 carpet, through fabric, through cardboard, each 11:17:12	13 definitely be an area which should not be fully 11:19:58
14 time it hits something, it loses a little force. 11:17:18	14 affected. 11:20:00
15 Q. Okay. And can you think of any solid 11:17:22	15 MR. KOPEL: Okay. Let's take a quick break, 11:20:02
16 material that ultrasound can penetrate? 11:17:24	16 please. 11:20:02
17 A. Not to any degree, no. 11:17:30	17 THE VIDEOGRAPHER: We're off the record at 11:20:04
18 Q. What about carpeting, curtains and other 11:17:34	18 11:3 a.m. at the end of media 1. 11:20:04
19 soft materials, have you seen testing to show that 11:17:38	19 (WHEREUPON, a short break was had.) 11:31:54
20 these materials absorb ultrasound? 11:17:44	20 THE VIDEOGRAPHER: We are back on the record 11:31:54
21 A. It is understood that they would. 11:17:46	21 at 11:25 a.m. with the beginning of media 2. 11:31:56
22 haven't seen specific tests of exactly the degree. 11:17:50	22 BY MR. KOPEL: 11:31:56
23 Q. Okay. And do you suppose that effect 11:17:54	23 Q. Can you please turn back to Exhibit 1? 11:32:00
24 could be seen from a couch? 11:17:56	24 There is no paragraph numbers or page numbers, but 11:32:06
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1 A. I think what you'd really have to do is 11:18:00	1 I'm referencing the second to the last page of your 11:32:10
2 to go to the physics of sound transfer and 11:18:04	2 report not including exhibits where you discuss 11:32:12
3 ultrasound at the professional experts' level, and 11:18:06	3 your work with the Transonic Pro unit. 11:32:18
4 I think they've tested the sound absorptions of 11:18:10	4 A. Okay. 11:32:22
5 everything you can imagine, but I've not gone to 11:18:12	5 Q. In the middle of the paragraph, there is 11:32:26
6 those references for this. 11:18:14	6 a sentence starting with the words "the first 11:32:28
7 Q. Okay. What about the shadow areas, can 11:18:16	7 year," do you see that? 11:32:30
8 you please explain what that is? 11:18:28	8 A. Second paragraph, you said? 11:32:34
9 A. A shadow area is something which has 11:18:28	9 Q. The first paragraph on the page. So 11:32:36
10 been talked about, but they haven't put anything in 11:18:32	10 this was the same page where we talked about the 11:32:42
11 those areas to document its actual existence to the 11:18:34	11 non-peer-reviewed publications. 11:32:44
12 best of my knowledge. In my own studies, I have a 11:18:38	12 MR. OSTOICH: It's the tenth line down maybe. 11:32:48
13 shadow area which should be opaque to ultrasound at 11:18:42	13 THE WITNESS: Before the actual studies? 11:33:14
14 the top of my stairs. 11:18:46	14 MR. OSTOICH: Right. 11:33:16
15 Q. I'm really sorry to interrupt you. I 11:18:50	15 THE WITNESS: Got it. 11:33:32
16 just want to take a step back. Can you just define 11:18:52	16 BY MR. KOPEL: 11:33:32
17 what that is, please? 11:18:56	17 Q. Do you see that? 11:33:32
18 A. A shadow area is an area where the 11:18:56	18 A. Yes. 11:33:34
19 presence of objects between you and it reduces the 11:18:58	19 Q. So the sentence reads, "The first year 11:33:34
20 volume of the sound. 11:19:02	20 the sound unit was present but not turned on in the 11:33:36
21 Q. Could that be like a corner in a wall, 11:19:04	21 back hall of the house. The second year it was on 11:33:38
22 for instance? 11:19:08	22 and producing ultrasounds as low as volume 11:33:40
23 A. Yeah, exactly, a corner in a wall or a 11:19:08	23 setting," do you see that? 11:33:44
24 corner of a carpet or a corner of a dresser, 11:19:10	24 A. Uh-huh. 11:33:46
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1 Q. Okay. Can you please flip to the 11:33:48	1 MR. OSTOJIC: Next page of which Exhibit? 11:37:18
2 Transonic Pro mice study, and I'm going to be 11:33:50	2 MR. KOPEL: Sure. We're still on Exhibit 1 is 11:37:20
3 referencing the abstract section, please? 11:33:58	3 the Transonic Pro study. 11:37:22
4 A. Okay. 11:34:06	4 THE WITNESS: Yeah. 11:37:26
5 Q. This looks like it might be -- the 11:34:10	5 MR. OSTOJIC: After the abstract? 11:37:26
6 second sentence starts with the word test, do you 11:34:12	6 MR. KOPEL: Correct, yes. 11:37:28
7 see that? 11:34:16	7 MR. OSTOJIC: Okay, I got it. 11:37:28
8 A. Yes. 11:34:18	8 BY MR. KOPEL: 11:37:28
9 Q. Oh, actually, the third sentence starts 11:34:22	9 Q. By the way, is this whole thing called 11:37:30
10 with the word test also, sorry. "Test used one 11:34:26	10 an abstract or just that first portion, that's 11:37:32
11 Transonic Pro in the back half entry. Dates 2 of 11:34:28	11 called the abstract? 11:37:34
12 August 5 December in both 2009 and 2010 with the 11:34:32	12 A. The first portion is the abstract. Once 11:37:36
13 ultrasonic -- with the ultrasound unit set to on in 11:34:38	13 you get the introduction, you're past the abstract. 11:37:36
14 2009 and to off in 2010." Do you see that? 11:34:42	14 The abstract summarizes as briefly as possible the 11:37:40
15 A. Yeah, I obviously reversed that in my 11:34:50	15 entire content of the paper so somebody can look at 11:37:42
16 writing here. 11:34:56	16 it and decide whether they need to read the whole 11:37:46
17 Q. Can you please look at Exhibit 2 real 11:35:26	17 thing or not. 11:37:50
18 quick? Keep everything else handy. You can keep 11:35:28	18 Q. So the first paragraph after 11:37:56
19 it open to the page actually with the study. Can 11:35:32	19 methods -- and here's a long paragraph 11:37:58
20 you look at Exhibit 2 on page 12? 11:35:34	20 again. It reads, "Rather than use an unnatural 11:38:02
21 A. Page 12. 11:35:54	21 lab-based testing using Plexiglas enclosures and 11:38:04
22 Q. Middle of the third paragraph, there is 11:35:58	22 confined mice populations, I chose to use free 11:38:08
23 a sentence starting, "I removed," 11:36:02	23 natural populations of mice as in test designs 11:38:12
24 A. Yes. I've obviously in writing up that 11:36:06	24 previously used to test efficacy of sound devices 11:38:14
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1 transposed the two years in terms of which was on 11:36:10	1 against the Norway rat, <i>Rattus norvegicus</i> , Ashton 11:38:18
2 and which was off. 11:36:14	2 1999. I feel such real world tests on free 11:38:22
3 Q. So which one is correct? Exhibit 1 and 11:36:14	3 populations produce far more valid results than 11:38:28
4 2, are those correct, or is the -- 11:36:20	4 artificial enclosure studies based on my 35 years 11:38:30
5 A. The abstract will definitely be telling 11:36:22	5 field experience doing research in natural settings 11:38:34
6 it correctly. 11:36:24	6 as a PhD in ethology. Equipment efficacy is best 11:38:38
7 Q. Abstract is correct, okay. So the year 11:36:26	7 tested in a natural environment for any species for 11:38:42
8 that it was on was 2009, the year it was off was 11:36:26	8 normal responses to novel stimuli are far more 11:38:46
9 2010, right, okay. 11:36:30	9 likely to be witnessed in such settings than in 11:38:48
10 Can you please take a look at the 11:36:32	10 unfamiliar surroundings. This same principle of 11:38:52
11 methods section, so it's the next page? 11:36:34	11 testing in natural settings has also been strongly 11:38:54
12 A. Yeah, 2009 it was off, 2010 it was on. 11:36:38	12 advocated for in print (Weck and Stein 1979) 11:38:56
13 that's correct, that's in the abstract. 11:36:46	13 expressly as a means of obtaining the most valid 11:39:00
14 Q. Okay. If there is any inconsistencies 11:36:48	14 results of new equipment to be tested in repelling 11:39:04
15 between -- 11:36:50	15 vertebrate pests." Did I read that correctly? 11:39:06
16 A. It was just a -- 11:36:50	16 A. You did. 11:39:10
17 Q. So the actual study is going to have the 11:36:52	17 Q. Okay, thanks. Do you believe that a 11:39:10
18 correct information? 11:36:54	18 test using Plexiglas enclosures and confined mouse 11:39:22
19 A. Yeah. The abstract has the definitely 11:36:56	19 populations would be an unnatural lab-based 11:39:26
20 correct information. It's easy just sitting at the 11:36:58	20 testing? 11:39:30
21 computer to type in backwards. So what was your 11:37:00	21 MR. OSTOJIC: Object to form. 11:39:32
22 next question? 11:37:04	22 BY THE WITNESS: 11:39:34
23 Q. Can you please take a look at the 11:37:08	23 A. It would be the most frequent form of 11:39:34
24 methods section, so it's the next page? 11:37:12	24 testing done, not necessarily the most natural. 11:39:36
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1 BY MR. KOPEL: 11:39:40	1 environment in which tests are done, and they can 11:42:18
2 Q. Is that a yes? 11:39:40	2 lead to valid results if you have set up proper 11:42:20
3 A. I'd have to hear the question again to 11:39:42	3 design and allowed the animals time to adapt 11:42:24
4 be sure exactly. 11:39:44	4 BY MR. KOPEL: 11:42:28
5 Q. I'll say it again, no problem. Do you 11:39:46	5 Q. But those results would be less valid 11:42:28
6 believe that a test using Plexiglas enclosures and 11:39:48	6 than real world tests, correct? 11:42:32
7 confined mouse populations would constitute 11:39:50	7 MR. OSTOJIC: Object to form. 11:42:34
8 unnatural lab-based testing? 11:39:52	8 BY THE WITNESS: 11:42:36
9 A. Versus the alternative, yes. 11:40:02	9 A. I prefer to see real world, but they are 11:42:36
10 Q. Now, here you say that, "I feel such 11:40:22	10 probably less than 1 or 2 percent of all the tests 11:42:42
11 real world tests of free populations produce far 11:40:24	11 reported or done. 11:42:46
12 more valid results than artificial enclosure 11:40:28	12 BY MR. KOPEL: 11:42:48
13 studies," do you see that? 11:40:30	13 Q. Why is that? 11:42:48
14 A. Yes. 11:40:32	14 A. Because it's so difficult to do if you 11:42:48
15 Q. What do you mean by far more valid 11:40:32	15 don't have them enclosed where you can see them. 11:42:52
16 results? 11:40:40	16 Most researchers want them on the campus in a room 11:42:54
17 A. Well, when you have an animal in an 11:40:42	17 next to their office, you don't have to go out. My 11:42:58
18 artificial environment, the things that you record 11:40:46	18 research has caused me to drive 120 to 150 miles a 11:43:04
19 and see may be a reaction to things in that 11:40:50	19 day to carry on in-field observations of animals 11:43:08
20 artificial environment, an unnatural environment, 11:40:54	20 from sunrise to sunset on numerous occasions. It's 11:43:10
21 so you aren't necessarily measuring the effect of 11:40:58	21 not convenient. 11:43:14
22 the equipment. You can be measuring how much does 11:41:02	22 Q. When testing mice or rats inside of 11:43:18
23 being put in a strange environment affect your 11:41:06	23 Plexiglas enclosures and with confined populations, 11:43:24
24 behavior. I could give you a good analogy. 11:41:10	24 do you believe that the mice or rats would possibly 11:43:42
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1 Q. Go ahead. 11:41:12	1 react differently to the equipment than they would 11:43:48
2 A. Do you want to conflict the difference 11:41:14	2 in real world environments? 11:43:50
3 between being at a party with a whole bunch of 11:41:18	3 MR. OSTOJIC: Object to form, foundation, 11:43:52
4 friends or being the person that goes into the 11:41:20	4 incomplete hypothetical, but go ahead. 11:43:54
5 basement to find out what's making that unusual 11:41:22	5 BY THE WITNESS: 11:43:58
6 noise? You know, if you're the one goes in the 11:41:24	6 A. I would say that that test situation 11:43:58
7 basement, the artificial scary environment, your 11:41:26	7 allows you to test the efficacy of the one thing 11:44:04
8 responses will be very different, your behaviors 11:41:32	8 you're doing because you've eliminated all the 11:44:08
9 will be very different. 11:41:34	9 other distractions, sources of error, so if you do 11:44:10
10 And so take it out of the natural 11:41:36	10 it with the two sides absolutely equal from the 11:44:16
11 environment, throw them in a completely strange 11:41:38	11 beginning and expose the animals to it, turn on a 11:44:20
12 environment, you know, it's trying to figure out 11:41:40	12 sound unit or any other thing to make pests go 11:44:24
13 what the hell am I doing here, what are these 11:41:44	13 away, you're measuring the effect only of that 11:44:28
14 smells, what are these sounds, nothing around me 11:41:46	14 action, so there is some reason to do that. If 11:44:30
15 makes sense. 11:41:50	15 gets rid of confounding sources of error. 11:44:34
16 Q. So based on that, would you say that 11:41:50	16 BY MR. KOPEL: 11:44:38
17 tests conducted in unnatural lab-based environments 11:41:54	17 Q. What are the disadvantages to using 11:44:38
18 are -- let me rephrase. 11:42:00	18 Plexiglas enclosures and confined mouse 11:44:44
19 Would you say that it is difficult to 11:42:04	19 populations? 11:44:46
20 make real world conclusions based on tests 11:42:06	20 A. As long as you keep the mouse numbers at 11:44:48
21 conducted in unnatural lab-based environments? 11:42:10	21 a reasonable level, yes, they have some unnatural 11:44:50
22 MR. OSTOJIC: Object to form. Go ahead. 11:42:14	22 behaviors. If you overcrowd them, you're going to 11:44:56
23 BY THE WITNESS: 11:42:14	23 have a mess and you won't be testing what you 11:45:02
24 A. I would say that's the most common 11:42:14	24 intended to test. Plexiglas allows you to see and 11:45:04
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1 count all the creatures which is an important part 11:45:12
 2 of getting an answer. And in the case of most 11:45:14
 3 studies like that, psychiatry, you're taking the 11:45:20
 4 rats which have been used to being in metal cages 11:45:24
 5 in the back room and in Plexiglas for their whole 11:45:26
 6 lives. The validity of those tests doesn't take 11:45:30
 7 into account strange surroundings as bringing in 11:45:36
 8 wild animals does. 11:45:40
 9 Q. Okay. So if you were to take wild 11:45:46
 10 animals and confine them in Plexiglas enclosures, 11:45:48
 11 that might affect their behavior due to the fact 11:45:56
 12 that they are not used to such an environment, is 11:45:58
 13 that correct? 11:46:04
 14 A. It might, but if you put them in in a 11:46:04
 15 protest situation and find them to not being 11:46:06
 16 behaving in abnormal ways, then it's valid to begin 11:46:10
 17 the test. 11:46:16
 18 Q. Okay. And as it pertains to the manner 11:46:16
 19 in which people would typically use ultrasonic pest 11:46:20
 20 repellers, you wouldn't typically expect them to be 11:46:24
 21 using them inside Plexiglas enclosures, would you? 11:46:26
 22 A. You'd expect them to be using them 11:46:30
 23 within the design specifications and test 11:46:32
 24 specifications recommended. 11:46:36

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1 MR. KOPEL: Can you please repeat the 11:46:40
 2 question? 11:46:40
 3 (WILLERUPON, the record was read 11:46:40
 4 as requested.) 11:46:40
 5 BY THE WITNESS: 11:46:40
 6 A. I would not 11:46:58
 7 BY MR. KOPEL: 11:47:02
 8 Q. It would be reasonable to assume that 11:47:02
 9 they would use them in their homes, correct? 11:47:04
 10 A. The purchasers? 11:47:08
 11 Q. Yes. 11:47:10
 12 A. Yes. 11:47:10
 13 Q. And people don't live in Plexiglas 11:47:10
 14 containers, do they? 11:47:14
 15 A. Not most of the ones I know. 11:47:16
 16 Q. And people's homes are far larger than 11:47:16
 17 Plexiglas containers, correct? 11:47:24
 18 MR. OSKOLIC: Object to form. 11:47:24
 19 BY THE WITNESS: 11:47:26
 20 A. Of course. 11:47:26
 21 BY MR. KOPEL: 11:47:28
 22 Q. And people's homes have corners in them 11:47:28
 23 as opposed to Plexiglas containers, is that 11:47:32
 24 correct? 11:47:34

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1 A. Plexiglas containers have corners. 11:47:34
 2 Q. I actually misspoke. There is a 11:47:38
 3 possibility for sound shadows in people's homes 11:47:40
 4 whereas there would not be that possibility in a 11:47:44
 5 Plexiglas container, is that correct? 11:47:48
 6 A. No, there is still possibilities for 11:47:48
 7 sound shadows. It depends on how exactly you 11:47:50
 8 position the unit, but it's very linear, very 11:47:54
 9 narrow focus. So even if Plexiglas is only this 11:47:58
 10 big by that big -- 11:48:00
 11 Q. Right. 11:48:02
 12 A. -- you got a unit here, it's going to be 11:48:02
 13 affecting a path across that Plexiglas container 11:48:06
 14 which is at most this wide on the other side. 11:48:10
 15 These are sound shadows over here and here. 11:48:14
 16 Q. Right. How narrow is it? 11:48:16
 17 A. It depends on exactly the size of the 11:48:18
 18 speaker and the orientation of it, but it will 11:48:20
 19 broaden as it crosses the room just like a pattern 11:48:24
 20 of shot from a shotgun gets bigger as it gets 11:48:30
 21 farther away. 11:48:32
 22 Q. Could an ultrasonic device -- would a 11:48:32
 23 single speaker ultrasonic device broadcast -- let 11:48:44
 24 me rephrase. 11:48:50

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1 Would an ultrasonic device affect an 11:48:52
 2 area behind it? 11:48:54
 3 A. No. 11:48:56
 4 Q. Would it affect the area immediately 11:48:56
 5 next to it? 11:49:00
 6 A. Not at close range. 11:49:02
 7 Q. How about underneath it? 11:49:04
 8 A. No. 11:49:06
 9 Q. And Plexiglas containers don't have 11:49:10
 10 furniture, correct? 11:49:12
 11 A. Correct. 11:49:14
 12 Q. And they don't have carpeting, correct? 11:49:14
 13 A. Yes, they do not have any furniture. 11:49:18
 14 Q. And furniture is something that could 11:49:26
 15 affect the efficacy of ultrasonic devices, correct? 11:49:28
 16 A. True. 11:49:32
 17 Q. And Plexiglas containers do not 11:49:34
 18 have -- I don't know if this was captured on the 11:49:36
 19 record earlier -- carpeting, correct? 11:49:40
 20 A. One assumes not. 11:49:40
 21 Q. And carpeting could affect the efficacy 11:49:42
 22 of ultrasonic devices, is that correct? 11:49:46
 23 A. Yes. 11:49:48
 24 Q. Plexiglas containers do not contain 11:49:50

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1	heds, is that correct?	11:49:52	1	wife some point in the 1980s decided to start	11:52:42
2	A. Yes.	11:49:54	2	keeping records of the mice captured throughout the	11:52:44
3	Q. And the presence of a bed in a room	11:49:56	3	year, so they are there. They are not absolutely	11:52:48
4	could affect the efficacy of an ultrasonic device,	11:49:58	4	complete, but I mean they're enough to say, yeah,	11:52:50
5	is that correct?	11:50:00	5	30 to 40 not a bad annual average for mouse caught,	11:52:54
6	A. Yes.	11:50:02	6	mice caught.	11:53:00
7	Q. Now, in this test as to the Transonic	11:50:02	7	Q. But the only year you reported here is	11:53:00
8	Pro, you were comparing the amount of mice you	11:50:24	8	2010 by comparison, correct?	11:53:02
9	found in the year 2010 with the year of -- excuse	11:50:28	9	A. Yes.	11:53:04
10	me, with the amount of mice you found in the year	11:50:32	10	Q. And why was it important to report the	11:53:04
11	2009, is that correct?	11:50:36	11	number you caught in 2010?	11:53:06
12	A. Right.	11:50:38	12	A. Because the number caught in 2010 with	11:53:10
13	Q. And in 2010 with the device off, you	11:50:38	13	the unit on -- wait	11:53:16
14	found 32 mice, is that correct?	11:50:42	14	Q. The unit was off in 2010,	11:53:22
15	A. Yes.	11:50:44	15	A. Unit off. Yeah, so it was zero happen,	11:53:24
16	Q. And in 2009 with the device on, you saw	11:50:44	16	yeah, they're both there. I'm not sure why we have	11:53:30
17	zero mice, is that correct?	11:50:48	17	two graphs in there, but, yes, the number trapped	11:53:36
18	A. Correct.	11:50:50	18	in 2010 with the unit off, that shouldn't -- that	11:53:42
19	Q. Why --	11:50:50	19	should be on the unit on. I needed to look at that	11:53:50
20	A. And if you look under the tomatoes	11:50:56	20	more closely,	11:53:54
21	gnawed, you'll find that the person who put these	11:51:00	21	Q. I'm sorry, I'm confused. What year was	11:53:56
22	labels into the graph messed up. Those were both	11:51:00	22	the unit on?	11:53:58
23	in different points in 2009.	11:51:04	23	A. I hadn't gone back and looked at these	11:54:14
24	Q. Oh, I see, okay. But we're sure about	11:51:08	24	appropriately.	11:54:36
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1	2009 versus 2010?	11:51:12	1	Q. Are you finding an error in there right	11:54:38
2	A. On the tomatoes, yes.	11:51:12	2	now?	11:54:40
3	Q. Okay, good. So let's say the device had	11:51:16	3	A. I'm finding that the person who did	11:54:40
4	been off in 2009, how many mice would you have seen	11:51:20	4	these graphs was the secretary for Bird-X.	11:54:42
5	in that year?	11:51:26	5	Q. Okay.	11:54:48
6	A. If it had been off in 2009? This is the	11:51:28	6	A. And I had not caught her mistakes in the	11:54:48
7	control study, I have no idea, but the general	11:51:34	7	keys.	11:54:52
8	numbers that I trapped in that farm house year by	11:51:36	8	Q. I see. Who drafted this report?	11:54:52
9	year since 1960 when I took over emptying the mouse	11:51:40	9	A. I drafted the entire report, but she did	11:54:56
10	traps would have fallen into the range of 25 to 35	11:51:44	10	the graphics. My computer skills don't rank at the	11:55:00
11	mice during the fall.	11:51:48	11	top.	11:55:04
12	Q. Have you reported the numbers that you	11:51:50	12	Q. Okay.	11:55:04
13	found year by year other than -- at any point prior	11:51:52	13	A. And she was the one who put together the	11:55:06
14	to 2009?	11:51:58	14	poster with the pictures and the other things.	11:55:08
15	A. There is a citation about mouse catching	11:52:02	15	Q. Yes	11:55:10
16	by catching by Blue Jays which just covered a	11:52:06	16	A. And finally I think that she messed up	11:55:12
17	little bit. I mean we went home for the week of	11:52:10	17	on the information that went with it.	11:55:16
18	Christmas, and I've forgotten whether it was 8 or	11:52:14	18	Q. So what's incorrect in this graph, and	11:55:16
19	10 mice that I took out and put in the backyard in	11:52:16	19	I'm referring to Figure 2 right now?	11:55:18
20	that few days in the snow and was curious where	11:52:20	20	A. Mice trapped with the unit off	11:55:24
21	they went and watched until I finally found the	11:52:24	21	2010 -- okay. Set to on in 2009, off in 2010,	11:55:28
22	Blue Jays carrying them off.	11:52:28	22	okay. On in 2009, off -- oh, they're right.	11:55:32
23	But I have over the years kept a journal	11:52:30	23	Q. There's no problem?	11:55:38
24	of what was killed in hunting up there, and my late	11:52:36	24	A. I was looking at the graph of the	11:56:00
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1	droppings and getting confused at that.	11:56:02	1	since then have kept the same pattern.	11:58:38
2	Q. Don't worry about it.	11:56:04	2	Q. You know, without the data from 2010 or	11:58:42
3	A. So I figure 2, the number caught in 2009	11:56:06	3	other years, let's say --	11:58:48
4	with it on, zero; the number caught in 2010, same	11:56:10	4	A. It would be meaningless.	11:58:50
5	exact dates to begin the study from August 5th I	11:56:16	5	Q. Okay, so let me just finish my question.	11:58:52
6	think till December 5th, so same season both years.	11:56:22	6	You're anticipating correctly. If you had only	11:58:54
7	same number of days, catching 32 mice in one	11:56:26	7	looked at 2009 with the unit on and seen zero, it	11:58:56
8	compared to the other, if you do the Chi-square of	11:56:32	8	would be a meaningless result, is that correct?	11:59:00
9	it, it's right at the edge of damn near impossible.	11:56:34	9	A. From a scientific standpoint.	11:59:02
10	In fact, I had to add a one, pretend I caught a	11:56:38	10	absolutely.	11:59:04
11	mouse in 2009 to be able to do a Chi-square test	11:56:42	11	Q. Why?	11:59:06
12	because you can't use a zero in it, so the	11:56:46	12	A. Because you have to have a control.	11:59:06
13	statistician said we'll put in a one and run the	11:56:50	13	Q. And without a control, as a matter of	11:59:06
14	test that way.	11:56:52	14	science, the data from a study is meaningless, is	11:59:14
15	Q. So I appreciate that explanation, and I	11:56:54	15	that correct?	11:59:18
16	want to talk on a much more basic level. Can you	11:56:56	16	A. Pretty much so, yes.	11:59:18
17	just explain what is the importance of comparing	11:57:00	17	Q. Can you please look at a portion of	11:59:32
18	the years 2009 versus 2010?	11:57:02	18	this -- of the Transonic report titled, "Study	11:59:40
19	A. To get a baseline evidence of the 2009	11:57:06	19	Design?"	11:59:44
20	with it off is the standard, you know, unconfined	11:57:14	20	A. Yes.	11:59:48
21	test. You know, it's a field test in a natural	11:57:20	21	Q. I'm looking at the third sentence here.	11:59:54
22	environment.	11:57:22	22	It reads, "This unit was set to the medium volume	11:59:58
23	Q. I'm sorry to interrupt you. 2009 the	11:57:22	23	and spider setting on the options for sound output	12:00:04
24	unit is on, correct?	11:57:28	24	for the test. I did not use the mice sound setting	12:00:06
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1	A. Yeah, the mice traps with the unit off.	11:57:28	1	since prior spiders tests had indicated mice	12:00:10
2	That's simply saying that this is a natural --	11:57:32	2	responded more strongly to the spider setting than	12:00:14
3	MR. OSTOJIC: Isn't 2009 on?	11:57:32	3	to the predesignated mice setting of the unit's	12:00:16
4	BY THE WITNESS:	11:57:38	4	controls." do you see that?	12:00:20
5	A. Excuse me, 2009 on, 2010 -- yeah, 2010	11:57:38	5	A. I do.	12:00:20
6	with it off you get the natural number of mice you	11:57:42	6	Q. Okay. So during the course of your	12:00:22
7	expect in this completely unconfined population.	11:57:48	7	testing with Transonic Pro when the unit was set to	12:00:26
8	BY MR. KOPPEL:	11:57:52	8	on, was it set to the medium volume and spider	12:00:32
9	Q. Is that the control?	11:57:52	9	setting?	12:00:34
10	A. That's the control.	11:57:54	10	A. No, the medium volume is incorrect.	12:00:36
11	Q. Okay. And is that -- I'm sorry, go	11:57:56	11	It's never been used where I could hear it which	12:00:38
12	ahead.	11:57:58	12	means it had to be on the quiet setting. It has	12:00:42
13	A. And in 2009 with the unit on, that's	11:57:58	13	never produced an audible sound for me.	12:00:46
14	what happened, so it's the number of mice that came	11:58:02	14	Q. Is that an error in this report?	12:00:50
15	far enough up the stairs to meet the traps but	11:58:04	15	A. This is an error in that report.	12:00:52
16	didn't come above that, didn't even step into the	11:58:08	16	Q. Can you turn back to the abstract,	12:00:54
17	traps which means in effect that the sound was	11:58:12	17	please? You know, never mind,	12:00:56
18	going down the staircase a bit because of the	11:58:14	18	Okay. So your initial and rebuttal	12:01:06
19	reflections.	11:58:22	19	expert reports, Exhibit 1 and 2, say that it was	12:01:14
20	It shows you that the thing being on was	11:58:22	20	turned to the quiet setting, whereas the study says	12:01:16
21	very effective at stopping the mice from entering	11:58:26	21	that it was turned to the medium setting, is that	12:01:20
22	the house. That and the lack of droppings in 2009	11:58:28	22	correct?	12:01:24
23	when it's on meant that they weren't going into the	11:58:32	23	A. That's what it looks like.	12:01:24
24	kitchen. The repeat studies, the repeat four years	11:58:34	24	Q. And here the study you conducted, the	12:01:26
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1 text of that study is incorrect, but your expert 12:01:34
 2 reports are correct, is that right? 12:01:36
 3 A. Yes. 12:01:38
 4 Q. And there was also a conflict between 12:01:40
 5 your expert reports in this case and your Transonic 12:01:42
 6 Pro study as to which years the device was tamed 12:01:48
 7 on and off, correct? 12:01:52
 8 A. That was just a typographical error, 12:01:54
 9 yes. 12:01:56
 10 Q. And in that instance, the actual 12:01:56
 11 Transonic Pro study was correct, right? 12:02:00
 12 A. Yes. 12:02:02
 13 Q. Is there anything else that's incorrect 12:02:10
 14 in this text? 12:02:12
 15 A. Not to the best of my knowledge. I had 12:02:14
 16 gone over it thoroughly in the last couple of days 12:02:20
 17 and caught those 12:02:22
 18 Q. You did catch those? 12:02:24
 19 A. Uh-huh. Oh, wait, there is that one 12:02:26
 20 thing under the tomatoes which indicated a date of 12:02:34
 21 2009 and 2010 when it was 2009 August to beginning 12:02:36
 22 of September and 2009 September to the end of 12:02:44
 23 September, so it's just mislabeling the graph. 12:02:46
 24 Again, I didn't look closely enough at what had 12:02:54

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1 been produced, and my recollection is that I got 12:02:58
 2 that poster delivered to me the day I had to leave 12:03:00
 3 for my conference. 12:03:02
 4 Q. Okay. 12:03:04
 5 A. And -- 12:03:26
 6 Q. Go on. 12:03:28
 7 A. The difference between the mouse setting 12:03:28
 8 and the spider setting would have been a matter of 12:03:30
 9 the sound form, sweeper, but the same frequency and 12:03:34
 10 decibel level, so it apparently doesn't make much 12:03:38
 11 of a difference. 12:03:44
 12 Q. Well, didn't we discuss earlier that the 12:03:46
 13 A, B and C in those settings affected whether the 12:03:50
 14 sound was constant versus pulsating versus 12:03:56
 15 sweeping? 12:04:00
 16 A. Yes, that's what I'm saying, the sound 12:04:00
 17 pattern, yeah, but not the frequency. 12:04:02
 18 Q. And there was different ones -- I'm 12:04:04
 19 sorry to interrupt you. Not the frequency? 12:04:04
 20 A. Yes. 12:04:06
 21 Q. Well, it might affect the frequency 12:04:06
 22 range, right, because if it's sweeping, there is 12:04:10
 23 different frequencies, but if it's static, there is 12:04:12
 24 only one, is that correct? 12:04:14

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1 A. It's static, it was broadcasting the 12:04:14
 2 full spectrum constantly. 12:04:16
 3 Q. Okay. 12:04:20
 4 A. The sweep goes up and down in the range. 12:04:20
 5 Q. I see, okay. 12:04:22
 6 A. And the pulsing is a space, no sound. 12:04:34
 7 sound, no sound, no sound, sound, no sound. 12:04:36
 8 Q. This passage we just read in the study 12:04:42
 9 design, I just wanted to talk about the second 12:04:48
 10 sentence here. "I did not use the mice sound 12:04:50
 11 setting since prior spider tests had indicated mice 12:04:54
 12 responded more strongly to the spider setting than 12:04:56
 13 to the predesignated mice setting of the unics 12:04:56
 14 controls." Is that another error? Did prior 12:05:00
 15 spider tests indicate that mice responded more 12:05:02
 16 strongly? 12:05:04
 17 MR. OSTOJIC: Object to form, foundation. Go 12:05:06
 18 ahead. 12:05:06
 19 BY THE WITNESS: 12:05:08
 20 A. I had run spider tests on long-legged 12:05:08
 21 cellar spiders at the request of Bird-X, and I did 12:05:18
 22 that in my back hall because that's where the 12:05:20
 23 long-legged cellar spiders come up from the 12:05:22
 24 basement, and that was the first thing that made me 12:05:26

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1 realize that the mice weren't coming up anymore. 12:05:28
 2 BY MR. KOTTEL: 12:05:32
 3 Q. I see, okay. 12:05:32
 4 A. So we started with that, and eventually 12:05:34
 5 I tried it on the mouse setting as well and didn't 12:05:36
 6 find any difference. 12:05:40
 7 Q. Okay. But with regards to your testing 12:05:40
 8 as to mice, you used it on the spider setting, is 12:05:44
 9 that correct? 12:05:48
 10 A. Initially, yes. 12:05:48
 11 Q. Well, during the Transonic Pro study. 12:05:48
 12 A. Yeah. 12:05:50
 13 Q. Or did you switch it during the study? 12:05:52
 14 A. No, I've switched it for the last four 12:05:54
 15 years. 12:05:56
 16 Q. Not during the years 2009 and 2010, 12:05:56
 17 right? 12:05:58
 18 A. Right. 12:05:58
 19 Q. Okay. Do you still have Exhibit 4 12:06:08
 20 handy? 12:06:20
 21 It's right here. Can you please look at 12:06:20
 22 instruction No. 4, slide the sound pattern switch 12:06:26
 23 to select which pests to repel, do you see that? 12:06:28
 24 A. Yes. 12:06:32

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25 (Pages 94 - 97)

1 Q. Okay. Did you follow that instruction? 12:06:32	1 you were not intending or repel something you 12:08:38
2 A. I followed that instruction in setting 12:06:36	2 weren't intending, I don't know. There is always a 12:08:42
3 it for the first -- the spider test. Eventually I 12:06:38	3 chance that you will have unexpected consequences 12:08:44
4 went to mice because that's what I was interested 12:06:44	4 to doing things. But following the instructions is 12:08:46
5 in testing. As a scientist, you sort of take what 12:06:46	5 still to my way of thinking the best possible way 12:08:50
6 you're given. If you find something that's working 12:06:58	6 to find out the answer to a question. 12:08:54
7 that's different than what you imagined, you tend 12:07:02	7 It's not necessarily the way my life has 12:08:58
8 to follow that. 12:07:04	8 been. You give me a model plane, it won't 12:09:00
9 Q. Okay. So I understand that it may be 12:07:06	9 necessarily look like the picture on the box when 12:09:02
10 immaterial, and you'll tell me if you believe that 12:07:08	10 I'm done because I don't read instructions there, 12:09:06
11 it was, but during your testing as to mice during 12:07:10	11 but I follow instructions to find out answers in 12:09:08
12 2009 and 2010, you had it switched to the spider 12:07:12	12 science. 12:09:12
13 setting, is that correct? 12:07:18	13 BY MR. KOPEL: 12:09:12
14 A. Yes. 12:07:18	14 Q. When you say you don't read instructions 12:09:12
15 Q. And that technically was not following 12:07:18	15 there, you're referring to instructions on the box 12:09:14
16 that direction, is that correct? 12:07:20	16 of a product? 12:09:16
17 A. Correct. 12:07:22	17 A. On the box of a model airplane, things 12:09:18
18 Q. But you believe that was immaterial? 12:07:24	18 which are not science. 12:09:20
19 A. Because we used the same sound. 12:07:24	19 Q. Are there other instructions provided 12:09:22
20 frequencies, just a difference in the pattern in 12:07:28	20 inside the box or are the instructions for model 12:09:26
21 which they're projected. Whether it's solid, sweep 12:07:30	21 airplanes located on the box? 12:09:30
22 or alternating on off, on off, I don't see that 12:07:36	22 A. Inside. 12:09:30
23 makes a difference, although they could hear them 12:07:40	23 MR. OSTOJIC: Objection to form, foundation. 12:09:32
24 no matter what was happening. 12:07:44	24 BY MR. KOPEL: 12:09:32
Page 98	Page 100
1 Q. So it's possible sometimes that somebody 12:07:44	1 Q. So when you're building a model 12:09:34
2 using a product could violate an instruction but 12:07:48	2 airplane, do you just build it without reading the 12:09:34
3 that violation might be immaterial, would you agree 12:07:52	3 instructions? 12:09:38
4 with that? 12:07:54	4 A. It's been a long time since I did, but, 12:09:40
5 MR. OSTOJIC: Object to form, foundation. 12:07:54	5 yes, I've actually rebuilt three real airplanes 12:09:42
6 BY THE WITNESS: 12:07:56	6 from scratch, so, yes, I do. 12:09:46
7 A. If the outcome is that you stay within 12:07:56	7 Q. Yes, you do build it without reading 12:09:50
8 the same frequency range and decibel production on 12:08:00	8 instructions, correct? 12:09:52
9 those different settings, yes. 12:08:04	9 A. Yes. 12:09:52
10 BY MR. KOPEL: 12:08:06	10 Q. Okay. 12:09:54
11 Q. Okay, thank you, and I appreciate your 12:08:06	11 A. But I haven't built one in 30 years. 12:09:54
12 answer that very specifically, and I asked you a 12:08:10	12 Q. That's very impressive. I'd be 12:09:58
13 more general question which was if's 12:08:12	13 interested in seeing that. 12:10:00
14 possible -- and let me take a step back. This 12:08:16	14 How about other products in your house, 12:10:00
15 question does not just pertain to repellents, it 12:08:18	15 do you have a microwave? 12:10:14
16 pertains to everything. Is it possible that 12:08:20	16 A. Yes. 12:10:16
17 somebody using a product could violate an 12:08:22	17 Q. Did you read the instructions to the 12:10:16
18 instruction of use but that violation might still 12:08:26	18 microwave? 12:10:18
19 be immaterial? 12:08:28	19 A. I honestly haven't seen them. All 12:10:20
20 MR. OSTOJIC: Object to form, foundation, 12:08:30	20 microwaves I've used since my daughter was born in 12:10:24
21 calls for speculation, incomplete hypothetical. Go 12:08:30	21 1985 have been hand-me-downs, you know, that came 12:10:26
22 ahead and answer. 12:08:34	22 from my mother and my sister's mother-in-law to my 12:10:30
23 BY THE WITNESS: 12:08:34	23 sister to me, to my farm house, and then gradually 12:10:34
24 A. You might very well catch something that 12:08:34	24 they've been replaced when other people replaced 12:10:38
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1 microwaves. I don't consider them an important 12:10:42
 2 part of my life. I cook real cooking on the stove. 12:10:44
 3 Q. Okay. Do you have a TV? 12:10:50
 4 A. I've gone for years without, but since I 12:10:52
 5 remarried, my wife is addicted to TV. 12:10:54
 6 Q. Do you use the TV sometimes? 12:10:58
 7 A. Very rarely. 12:11:00
 8 Q. Did you read the instructions for the TV 12:11:02
 9 prior to use? 12:11:04
 10 A. I wouldn't begin to understand the 12:11:04
 11 system that she had put into the house we live in. 12:11:06
 12 I don't even know which remote does what. 12:11:10
 13 Q. Is that because you're not an expert in 12:11:12
 14 that field? 12:11:14
 15 A. It's because I don't really care. If 12:11:14
 16 she's not there, I'm not going to turn on the TV. 12:11:16
 17 I live my life TV free. My farm house hasn't had a 12:11:22
 18 television in it since 1954. 12:11:26
 19 Q. Do you have a car? 12:11:28
 20 A. Yes. 12:11:30
 21 Q. Have you read through the entire manual? 12:11:32
 22 A. Absolutely. I don't fly my airplanes 12:11:34
 23 without reading the entire manual either. 12:11:38
 24 Q. Fair enough. So based on that, how do 12:11:42

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1 you distinguish whether or not you do or do not 12:11:46
 2 read the instructions before operating something? 12:11:48
 3 MR. OSTOJC: Object to form, foundation. 12:11:52
 4 BY THE WITNESS: 12:11:54
 5 A. It depends primarily on my range of 12:11:54
 6 experience with the things. I've been using a 12:11:58
 7 chain saw since I was 11 years old. I don't read 12:12:02
 8 the instructions when I buy a new chain saw. You 12:12:06
 9 know, it's a matter of need to know; and if it's 12:12:10
 10 something I'm not going to be using, I don't read 12:12:12
 11 the instructions because I don't intend to pick it 12:12:16
 12 up and do anything with it. 12:12:18
 13 Q. And if it's something you feel confident 12:12:20
 14 you will know how to operate without the 12:12:22
 15 instructions, then you won't read them? 12:12:22
 16 A. Right. But in science, you get all the 12:12:26
 17 information you can before you start. 12:12:28
 18 Q. And when you say in science, you mean 12:12:30
 19 when you're testing something, right? 12:12:32
 20 A. Yes. 12:12:34
 21 Q. Okay. You said that the mice responded 12:12:40
 22 more strongly to the spider setting here. Did you 12:12:42
 23 find that they were -- the mice were not responding. 12:12:46
 24 properly to the mice setting? 12:12:50

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1 A. I hadn't really sat down and documented. 12:12:52
 2 This is a sense of -- just without having counted 12:12:58
 3 things during that period, it was a sense of what I 12:13:08
 4 was seeing. I set up the test to find out. 12:13:10
 5 Q. Okay. So at the bottom of the same 12:13:14
 6 page, the last sentence reads, "Placement of the 12:13:20
 7 sound unit in the hall forced the mice to pass 12:13:24
 8 within less than 1 meter of the sound generated to 12:13:26
 9 gain entry to the main house thus exposing them to 12:13:30
 10 the full 96 decibel sound at .5 meters," do you see 12:13:32
 11 that? 12:13:36
 12 A. I do. 12:13:36
 13 Q. So obviously you're an expert in the 12:13:38
 14 area -- well, let me take a step back. 12:13:42
 15 Given that you are a scientist, you were 12:13:48
 16 able to identify where the mice were entering the 12:13:50
 17 premises, is that correct? 12:13:52
 18 A. Pretty much as anybody who sat in the 12:13:54
 19 kitchen and watched the mice come in through the 12:13:56
 20 hallway would have been able to, yes, years of 12:14:00
 21 being in the kitchen, having mice come around the 12:14:02
 22 door and run under the refrigerator. 12:14:06
 23 Q. So do you believe that any homeowner can 12:14:08
 24 easily identify where rodents are -- excuse me. If 12:14:12

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1 a homeowner has a rodent infestation, do you 12:14:18
 2 believe any homeowner can easily identify where 12:14:20
 3 they're entering? 12:14:22
 4 A. Well, if they've seen the mouse or the 12:14:24
 5 rat, they probably have a pretty good idea where it 12:14:26
 6 came in or where it went out to because it would 12:14:30
 7 have come and gone through the same source in all 12:14:32
 8 probability. 12:14:34
 9 Q. But you have no experience working with 12:14:34
 10 homeowners on rodent infestations, do you? 12:14:38
 11 A. Not being in the room and advising with 12:14:42
 12 them, no. 12:14:48
 13 Q. So what you're saying now is not based 12:14:50
 14 on experience but rather speculation, is that 12:14:52
 15 correct? 12:14:54
 16 MR. OSTOJC: Object, form, foundation, 12:14:54
 17 mischaracterizes the testimony. You can answer. 12:14:56
 18 BY THE WITNESS: 12:15:02
 19 A. More on hearsay. I know a number of 12:15:02
 20 people who have bought devices like the 12:15:04
 21 Bell & Howell device because they had seen a mouse 12:15:08
 22 in one room of their house or two rooms of their 12:15:12
 23 house and put them in there, and then they said 12:15:14
 24 afterwards they didn't see them again, and this is 12:15:18

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1 a woman who has a cat which doesn't do anything 12:15:22
 2 about mice. 12:15:26
 3 I have numerous people that I've given 12:15:26
 4 the Transonic Pro to as a gift for their cabins 12:15:32
 5 particularly, their weekends places in Wisconsin 12:15:36
 6 where they complain that there is mice on the 12:15:38
 7 ledges and mice on the tables and droppings 12:15:42
 8 everywhere, and they've all come back and said that 12:15:44
 9 it's made a tremendous difference, but that's not 12:15:46
 10 science, that's just... 12:15:50
 11 Q. If you would have sealed up that hole or 12:15:52
 12 entry point where the mice were coming in, would 12:15:58
 13 you have still had mice in the absence of the 12:16:00
 14 Transonic Pro unit? 12:16:04
 15 A. I wouldn't have had access to the 12:16:06
 16 basement to get at the pumps and the heaters and 12:16:08
 17 things if I sealed that. I mean it's the space 12:16:10
 18 under the door of the hallway 12:16:14
 19 Q. So is it sometimes unavoidable as a 12:16:14
 20 homeowner, you're not able to seal the entry point? 12:16:18
 21 A. Physically you can't seal that and still 12:16:20
 22 be able to go beyond it, but in this case, this 12:16:22
 23 provided a sound barrier. And despite what it says 12:16:26
 24 here about blocking that one distance, when we got 12:16:30
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1 to talking about sound shadows, that unit is two 12:16:32
 2 and a half meters from the top of the stairs in a 12:16:36
 3 hard floored, hard walled environment, and the mice 12:16:42
 4 are avoiding traps that are on the first, second 12:16:46
 5 and third steps down the stairs, so it's still 12:16:48
 6 having an effect. I mean if it didn't reach that 12:16:54
 7 far, there would be mice in the traps down there, 12:16:56
 8 so it's bouncing that sound off the opposite wall 12:16:58
 9 as you would when you have a very hard surface. 12:17:04
 10 Q. Isn't it possible that it just prevented 12:17:06
 11 the mice that would have otherwise been caught 12:17:08
 12 there from entering the premises in the first 12:17:10
 13 place? 12:17:12
 14 MR. OSTOJIC: Object to form 12:17:14
 15 BY THE WITNESS: 12:17:14
 16 A. That's exactly what we're looking at, 12:17:14
 17 though, 12:17:18
 18 BY MR. KOPEL: 12:17:18
 19 Q. Okay. 12:17:18
 20 A. The mice are always caught on the 12:17:18
 21 stairs. They're not in the kitchen. So if they're 12:17:20
 22 caught on the stairs, it means that they have come 12:17:26
 23 up into the sound of that when it's on, 12:17:28
 24 Q. Okay. 12:17:32
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1 A. But if they're not caught, it means that 12:17:32
 2 the sound up there and extending down through that 12:17:34
 3 back hall into the stair and now talking three and 12:17:38
 4 a half meters from where the unit is placed is 12:17:40
 5 keeping them from coming high enough up the stairs 12:17:42
 6 to get their noses in the peanut butter and he 12:17:46
 7 trapped. 12:17:50
 8 Q. Understood. Now, as a homeowner, most 12:17:50
 9 of the time when you observed mice, was it in the 12:17:52
 10 stairs area? That's where you always had the traps 12:17:54
 11 set up? 12:17:58
 12 A. No. No, I've had them scattered 12:17:58
 13 throughout the entire farm house at Groes. 12:18:00
 14 Q. Okay. 12:18:02
 15 A. Before this, you know, we would find 12:18:02
 16 mice on the beds in the bedrooms resting and eating 12:18:06
 17 the blankets, we would see them running underneath 12:18:10
 18 the refrigerator, underneath the cabinets in the 12:18:14
 19 kitchen; we'd see them scurrying along the walls of 12:18:16
 20 the living room. I mean they were pretty much 12:18:20
 21 ubiquitous throughout the farm house. 12:18:24
 22 Q. If a mouse was inside of a bed -- would 12:18:26
 23 that be common that a mouse could get inside of a 12:18:28
 24 bed? 12:18:32
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1 A. Oh, yeah. 12:18:32
 2 MR. OSTOJIC: Object to form. 12:18:32
 3 BY MR. KOPEL: 12:18:32
 4 Q. Same for a rat? 12:18:32
 5 A. Yeah. 12:18:34
 6 Q. Could an ultrasonic device reach that 12:18:36
 7 mouse? 12:18:38
 8 A. I don't know. It depends how heavy the 12:18:42
 9 covers are on it probably. 12:18:44
 10 Q. But with heavy covers, probably not? 12:18:44
 11 A. Yeah. 12:18:46
 12 Q. If you had set up the Transonic Pro on 12:18:48
 13 the steps as opposed to facing this entry point, 12:18:52
 14 what would have happened? 12:19:04
 15 A. The difficulty would have been placing 12:19:06
 16 it such that the speaker would be pointing down the 12:19:08
 17 stairs. It would have been a fine thing to do to 12:19:10
 18 try to stop the mice from coming up from the 12:19:14
 19 basement at all, but the sound is directional. I'd 12:19:16
 20 have to have found a way to build a structure which 12:19:22
 21 would hold the speaker facing down the stairs. 12:19:24
 22 Q. I understand. 12:19:28
 23 A. So it's just putting it on the floor 12:19:30
 24 right there behind the door where it was out of the 12:19:32
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1 way of everything was the logical place as far as I 12:19:34
 2 could see. 12:19:38
 3 Q. So placement of the unit is a crucial 12:19:38
 4 aspect to efficacy, would you agree with that? 12:19:42
 5 A. To some degree, yes. It has to be close 12:19:46
 6 enough so the sound force will disturb the animals. 12:19:48
 7 Q. So if a homeowner doesn't have an outlet 12:19:52
 8 in the correct location, would that be a problem? 12:20:00
 9 MR. OSTOJC: Object to form. 12:20:04
 10 BY THE WITNESS: 12:20:06
 11 A. For the Bell & Howell units, they 12:20:06
 12 recommend not using an extension cord. In my case, 12:20:08
 13 because I wanted it to be plugged into the back 12:20:14
 14 hall where there is no outlet, it was on an 12:20:16
 15 extension cord from the bathroom. 12:20:18
 16 BY MR. KOPEL: 12:20:20
 17 Q. I see. So if you had not used an 12:20:20
 18 extension cord, you would not have been able to 12:20:22
 19 place the unit where you did, is that correct? 12:20:24
 20 A. Exactly. 12:20:26
 21 Q. So you wouldn't be able to replicate the 12:20:26
 22 test conditions that you conduct in the Transonic 12:20:34
 23 Pro test using the Bell & Howell device, would you? 12:20:38
 24 A. If you had outlets at the right height 12:20:42

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1 in the house. 12:20:46
 2 Q. But you didn't, right? 12:20:46
 3 A. This house was built in the 1940s. I'm 12:20:50
 4 lucky to have any outlets. 12:20:52
 5 Q. Okay. I appreciate that. So to be 12:20:54
 6 clear, you didn't have the correctly placed 12:20:56
 7 outlets, right? 12:21:00
 8 A. No. 12:21:00
 9 Q. What do you mean by the right height? 12:21:00
 10 A. Well, since the sound is linear, you 12:21:04
 11 want to have that placed within two to three inches 12:21:08
 12 of floor height because that's where the mice are. 12:21:12
 13 Q. Where are the outlets located in 12:21:18
 14 your -- was it a townhouse -- I'm sorry, the farm 12:21:22
 15 house. 12:21:24
 16 A. Farm house. 12:21:26
 17 Q. Sorry, farm house. Where are the 12:21:26
 18 outlets located? 12:21:28
 19 A. In the side of the cabinet next to the 12:21:32
 20 sink, on the top of the counter of the kitchen, in 12:21:34
 21 the east wall of the kitchen, in the north wall of 12:21:40
 22 the kitchen above a counter where I can plug in my 12:21:46
 23 electric griddle. 12:21:48
 24 Q. Okay. 12:21:50

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1 A. They're in a few places, you know, one 12:21:52
 2 or two outlets per room for lights. 12:21:56
 3 Q. What about the height of the outlets? I 12:22:00
 4 know you mentioned one that was above the counter. 12:22:02
 5 A. Other than the kitchen, the heights of 12:22:04
 6 the outlets in my farm house tend to be four to six 12:22:06
 7 inches above the floor. 12:22:12
 8 Q. Would that be too high to effectively -- 12:22:12
 9 A. No, that would be fine. 12:22:16
 10 Q. What would be too high? 12:22:18
 11 A. Once you get above 14 to 16 inches, then 12:22:20
 12 the sound is not sweeping the floor. You know, the 12:22:24
 13 mice are not hanging in mid air. 12:22:26
 14 Q. I see. So if you plug something 12:22:30
 15 in -- first of all, if you plugged it like by your 12:22:32
 16 countertop, that would not be effective against -- 12:22:34
 17 A. It would be effective if the mice were 12:22:36
 18 up there, but of course if you plug it on the back 12:22:38
 19 side of the counter, it's shooting out at a narrow 12:22:40
 20 range like this. 12:22:44
 21 Q. I understand. So it wouldn't focus on 12:22:44
 22 the rest of the room? 12:22:46
 23 A. No, you'd have to point it towards the 12:22:48
 24 countertop if you want it to be effective in 12:22:50

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1 keeping the counter free of mice. This was pretty 12:22:52
 2 clear what the instructions say in Bell & Howell; 12:22:56
 3 you want to point it towards the area you want to 12:22:58
 4 protect. 12:23:02
 5 Q. We'll get to that, thanks. And I think 12:23:02
 6 you said was it 14 to 16 inches you said was too 12:23:06
 7 high at that point? 12:23:10
 8 A. Then you're above the mice and the rats. 12:23:10
 9 Q. And then the devices couldn't be 12:23:14
 10 effective? 12:23:18
 11 A. That is the assumption of most people. 12:23:18
 12 but since I'm seeing clearly reflection of the 12:23:22
 13 sound off the hard surface back to another and down 12:23:26
 14 around the sound shadow, I'm willing to bet that 12:23:30
 15 you would get some effect by hitting another hard 12:23:32
 16 surface on the other side, you know, instead of 12:23:36
 17 being absorbed. 12:23:42
 18 Q. But you haven't tested that, right? 12:23:44
 19 A. I don't have the equipment. 12:23:46
 20 Q. Okay. 12:23:46
 21 A. It's very expensive to go out and get 12:23:48
 22 the things which will test frequency and decibel 12:23:50
 23 levels to that degree. 12:23:54
 24 Q. I understand. And in order for that to 12:23:54

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1 work, that depends on the shape of the room, right? 12:23:58
 2 A. Exactly. 12:24:00
 3 Q. So certain shape of rooms you would not 12:24:00
 4 be able to have that effect? 12:24:02
 5 A. Right. It's one reason to have more 12:24:04
 6 than one if you feel that you need them to have 12:24:06
 7 complete absence of creatures. 12:24:10
 8 Q. I understand. And because they're 12:24:12
 9 directional, would you say that in each room you 12:24:14
 10 would need them facing in every direction? 12:24:18
 11 A. Probably the best thing is facing across 12:24:24
 12 entry points. 12:24:26
 13 Q. I understand. But just to -- I don't 12:24:28
 14 mean to belabor this point, but you would not have 12:24:34
 15 been able to conduct this specific experiment using 12:24:38
 16 the Bell & Howell devices, correct? 12:24:40
 17 MR. OSTOICH: Object to form, foundation. 12:24:42
 18 BY THE WITNESS: 12:24:46
 19 A. I couldn't have done this test in 12:24:46
 20 exactly the same form it was carried out with the 12:24:48
 21 Bell & Howell, but I would have probably found a 12:24:52
 22 way to block other points. 12:24:56
 23 BY MR. KOPEL: 12:24:58
 24 Q. Could you have plugged in the Bell & 12:24:58
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1 Howell devices in your basement -- do you have 12:25:02
 2 outlets in the basement? 12:25:06
 3 A. I do as of a year ago. My daughter 12:25:06
 4 married an electrician. 12:25:10
 5 Q. So you didn't used to? 12:25:10
 6 A. And when we put in an electric hot water 12:25:12
 7 heater, he put in eight outlets and ten lights, and 12:25:16
 8 I now have unbelievable lighting down there. It 12:25:18
 9 used to just be one outlet which ran the pump and a 12:25:22
 10 single bare light bulb overhead. 12:25:26
 11 Q. Got it. Okay, great. I'm in the 12:25:30
 12 portion of this text titled, "Discussion," and I'm 12:25:58
 13 on the following page after the title. 12:26:02
 14 A. Yep. 12:26:06
 15 Q. And you have some discussion of white 12:26:08
 16 lab mice, do you see that? It's at the bottom of 12:26:10
 17 the page. So not the page that says discussion, 12:26:16
 18 the next page. 12:26:18
 19 A. Okay, yes. 12:26:30
 20 Q. What is the difference between white lab 12:26:32
 21 mice and other types of mice? 12:26:44
 22 A. White lab mice are the product of 12:26:46
 23 thousands of generations of breeding in captive 12:26:50
 24 environments. They are the standard mus musculus. 12:26:54
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1 the European house mouse that was brought to this 12:27:00
 2 country, still is present in Europe, still used 12:27:02
 3 extensively for all kinds of behavioral tests, 12:27:06
 4 psychological tests and so forth; but they have 12:27:10
 5 over the years they're no longer subjected to the 12:27:14
 6 same natural selective courses that wild mice are. 12:27:22
 7 They've been living in protected environments with 12:27:26
 8 provided food and all the care and so forth for 12:27:30
 9 probably 300 or 400 years of research, at least 12:27:36
 10 200 years, and the result is that genetically they 12:27:40
 11 have drifted. Their gene patterns have become 12:27:44
 12 highly inbred, they have less variation than the 12:27:48
 13 wild mice would do because they haven't been 12:27:52
 14 subjected to the same forces. 12:27:54
 15 Q. So would it be reasonable to surmise 12:27:56
 16 that they might react to ultrasound differently 12:27:58
 17 than other types of mice? 12:28:02
 18 A. White lab mice, probably so. 12:28:02
 19 Q. Okay. Last question about this 12:28:06
 20 publication, can deer hear ultrasound? 12:28:10
 21 A. There is a good question about that. I 12:28:16
 22 know that people have tried to test it, but they 12:28:20
 23 test it in a situation where it doesn't reach them 12:28:22
 24 because of its lack of force, and they've also put 12:28:26
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1 these artificial -- the idea of the little 12:28:30
 2 ultrasound deer warning systems on cars, there is 12:28:32
 3 no proof that they do anything, and of course it 12:28:38
 4 wouldn't make any difference because the sound 12:28:40
 5 wouldn't travel far enough ahead of a car moving 12:28:42
 6 above 15 miles an hour to protect it from anything. 12:28:44
 7 So I have not seen tests that indicate 12:28:48
 8 that they should hear it. Given the size of the 12:28:52
 9 animal, the size of the ears and so forth and what 12:28:54
 10 it feeds upon, there is little evolutionary reason 12:29:00
 11 to believe they should be able to hear that. You 12:29:02
 12 know, dogs, foxes, coyotes, cats all hear into the 12:29:06
 13 ultrasound frequency because they're hunting mice 12:29:10
 14 and rats and things that make those sounds. I 12:29:14
 15 haven't heard a cat give off ultrasound ever. 12:29:14
 16 Q. But an ultrasound device made for a car 12:29:18
 17 to be used against deer, that would not work. 12:29:22
 18 correct? 12:29:26
 19 A. All studies have shown them to be 12:29:26
 20 perfectly worthless. 12:29:28
 21 Q. Okay, thank you. You can put that 12:29:30
 22 Exhibit aside, please. 12:29:32
 23 I want to go off the record for just one 12:29:36
 24 moment. 12:29:38
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1 THE VIDEOGRAPHER: We're off the record at 12:29:38	1 units until contacted by the lawyer and told that 13:23:06
2 12:23 p.m. 12:29:40	2 they didn't work. 13:23:08
3 (WHERRUPON, a short break was had.) 13:20:20	3 Q. Are we talking about Ms. Bueno right 13:23:10
4 THE VIDEOGRAPHER: We are back on the record 13:20:20	4 now? 13:23:12
5 at 1:14 p.m. 13:20:22	5 A. Yes. 13:23:12
6 BY MR. KOPEL: 13:20:22	6 Q. Is that something that you think is 13:23:12
7 Q. Good afternoon, Dr. Whitford. 13:20:26	7 apparent to anyone who reads her deposition 13:23:12
8 A. Good afternoon. 13:20:28	8 transcript, or do you believe you needed special 13:23:14
9 Q. I hoped you enjoyed your lunch. 13:20:28	9 training in order to reach that conclusion? 13:23:28
10 A. Quite adequate, and yours? 13:20:30	10 MR. OSTOJIC: Object to form. 13:23:30
11 Q. I'm sorry? 13:20:32	11 BY THE WITNESS: 13:23:32
12 A. Yours. 13:20:32	12 A. No, I mean she said essentially or I 13:23:32
13 Q. It was fine. Can you please grab 13:20:34	13 said nothing in Ms. Bueno's statement provided 13:23:36
14 Exhibit 3, that's your initial report in this case, 13:20:42	14 evidence that the UPR did not work as advertised 13:23:38
15 and turn to the deposition section? 13:20:48	15 assuming use instructions were followed. She 13:23:40
16 A. Okay. 13:21:02	16 didn't indicate anything other than having found 13:23:44
17 Q. So was part of your assignment in this 13:21:06	17 the one group of ants and having sealed that, which 13:23:48
18 case to review deposition transcripts? 13:21:08	18 is what the instructions say to do, having had only 13:23:52
19 A. Uh-huh. 13:21:10	19 one or two sneaking around a window. While she was 13:23:56
20 Q. Which transcripts did you review? 13:21:12	20 following the instructions, she seemed satisfied 13:24:00
21 A. Sandra Bueno, Joanne Hart, and Debbie 13:21:14	21 with it. 13:24:02
22 Federstein. 13:21:20	22 BY MR. KOPEL: 13:24:04
23 Q. Any others? 13:21:20	23 Q. I want to just go back to that statement 13:24:04
24 A. Were there any other depositions, you 13:21:22	24 you just made about the lawyer -- contacting the 13:24:06
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1 mean? 13:21:24	1 lawyer. Now, you made that determination from 13:24:10
2 Q. Oh, I'm sorry, did you review any other 13:21:24	2 reading the transcript, right? 13:24:12
3 deposition transcripts besides for the three you've 13:21:26	3 A. I believe I did. 13:24:14
4 just listed? 13:21:32	4 Q. Okay. Now, in making that 13:24:16
5 A. I listened to on Potter's. 13:21:32	5 determination, did you apply any sort of 13:24:20
6 Q. Okay. None others, none besides those 13:21:36	6 scientific, technical or other type of specialized 13:24:22
7 you mentioned, correct? 13:21:40	7 knowledge? 13:24:26
8 A. No. I wasn't aware that there were any 13:21:40	8 A. To? 13:24:28
9 others. 13:21:42	9 Q. To make that determination that 13:24:28
10 Q. Okay. So let's talk about Bueno. 13:21:56	10 Ms. Bueno was satisfied until she was contacted by 13:24:32
11 please. What was your understanding of why you 13:22:02	11 a lawyer? 13:24:34
12 were reviewing this transcript? 13:22:04	12 A. She didn't indicate dissatisfaction. 13:24:34
13 A. To see whether she had followed 13:22:06	13 Q. Okay, I understand, so please listen 13:24:36
14 instructions which are contained with the package, 13:22:14	14 carefully to the question because I'm asking a very 13:24:40
15 to put them in the proper positions, whether she 13:22:20	15 specific question. In making that determination 13:24:42
16 felt that they had worked at all at various points, 13:22:22	16 that you made -- I understand the basis for your 13:24:44
17 whether she expressed any satisfaction with them to 13:22:30	17 determination. I'm saying in making it, did you 13:24:46
18 begin with or not. 13:22:34	18 employ any sort of scientific, technical or other 13:24:50
19 Q. Okay. Would you say that part of what 13:22:42	19 type of specialized knowledge in order to make that 13:24:52
20 you did with these deposition transcripts is tried 13:22:48	20 determination, or could any lay person have made 13:24:56
21 to diagnose perhaps the source of their 13:22:52	21 that determination based on reading the transcript? 13:24:58
22 dissatisfaction with the units? 13:22:58	22 A. Of her attitude? 13:25:00
23 A. As far as I could see from her 13:23:02	23 Q. Yes. 13:25:02
24 disposition, she had no dissatisfaction with the 13:23:04	24 A. I think any lay person would get the 13:25:04
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1 lawyer. Now, you made that determination from 13:24:10	1 lawyer. Now, you made that determination from 13:24:10
2 reading the transcript, right? 13:24:12	2 reading the transcript, right? 13:24:12
3 A. I believe I did. 13:24:14	3 A. I believe I did. 13:24:14
4 Q. Okay. Now, in making that 13:24:16	4 Q. Okay. Now, in making that 13:24:16
5 determination, did you apply any sort of 13:24:20	5 determination, did you apply any sort of 13:24:20
6 scientific, technical or other type of specialized 13:24:22	6 scientific, technical or other type of specialized 13:24:22
7 knowledge? 13:24:26	7 knowledge? 13:24:26
8 A. To? 13:24:28	8 A. To? 13:24:28
9 Q. To make that determination that 13:24:28	9 Q. To make that determination that 13:24:28
10 Ms. Bueno was satisfied until she was contacted by 13:24:32	10 Ms. Bueno was satisfied until she was contacted by 13:24:32
11 a lawyer? 13:24:34	11 a lawyer? 13:24:34
12 A. She didn't indicate dissatisfaction. 13:24:34	12 A. She didn't indicate dissatisfaction. 13:24:34
13 Q. Okay, I understand, so please listen 13:24:36	13 Q. Okay, I understand, so please listen 13:24:36
14 carefully to the question because I'm asking a very 13:24:40	14 carefully to the question because I'm asking a very 13:24:40
15 specific question. In making that determination 13:24:42	15 specific question. In making that determination 13:24:42
16 that you made -- I understand the basis for your 13:24:44	16 that you made -- I understand the basis for your 13:24:44
17 determination. I'm saying in making it, did you 13:24:46	17 determination. I'm saying in making it, did you 13:24:46
18 employ any sort of scientific, technical or other 13:24:50	18 employ any sort of scientific, technical or other 13:24:50
19 type of specialized knowledge in order to make that 13:24:52	19 type of specialized knowledge in order to make that 13:24:52
20 determination, or could any lay person have made 13:24:56	20 determination, or could any lay person have made 13:24:56
21 that determination based on reading the transcript? 13:24:58	21 that determination based on reading the transcript? 13:24:58
22 A. Of her attitude? 13:25:00	22 A. Of her attitude? 13:25:00
23 Q. Yes. 13:25:02	23 Q. Yes. 13:25:02
24 A. I think any lay person would get the 13:25:04	24 A. I think any lay person would get the 13:25:04
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1 same conclusion from reading it. 13:25:06	1 A. Yes. 13:27:20
2 Q. Okay. Same question for Joanne Hart, in 13:25:08	2 Q. So would it be harder to repel spiders 13:27:20
3 making that determination for Ms. Hart, did that 13:25:12	3 if a device is plugged in on a lower outlet? 13:27:24
4 require any sort of scientific, technical or other 13:25:14	4 MR. OSTOJC: Object to form, incomplete 13:27:28
5 specialized knowledge to come to that conclusion, 13:25:18	5 hypothetical, but go ahead. 13:27:30
6 or could any lay person have done so after reading 13:25:20	6 BY THE WITNESS: 13:27:32
7 the transcript? 13:25:24	7 A. Yes and no, I'd have to say, because 13:27:32
8 MR. OSTOJC: Object to form, but go ahead. 13:25:24	8 spiders are usually found in the upper corners, but 13:27:36
9 BY THE WITNESS: 13:25:26	9 they had to get there somehow. 13:27:38
10 A. Well, because she went back and bought a 13:25:26	10 BY MR. KOPEL: 13:27:40
11 second set and used them in her brother's house, 13:25:28	11 Q. Right. 13:27:40
12 one gets the impression of satisfaction with them. 13:25:30	12 A. So it all depends where they're coming 13:27:42
13 BY MR. KOPEL: 13:25:34	13 from and where they're going to. 13:27:42
14 Q. So we can talk about that, but please 13:25:34	14 Q. But a device plugged in at floor level 13:27:46
15 just -- please listen to the question carefully. 13:25:36	15 would not be able to repel a spider that's up on 13:27:50
16 In making that determination, did you require to 13:25:40	16 the corner of a wall, is that correct? 13:27:54
17 use any sort of scientific, technical or other 13:25:44	17 A. Actually, in my spider tests in the back 13:27:56
18 specialized knowledge, or could any lay person have 13:25:46	18 hall, they did, but again we were talking about 13:28:00
19 reached that determination based on reading the 13:25:50	19 refraction and reflection of sound. 13:28:04
20 transcript? 13:25:52	20 Q. Understood. That depends on the 13:28:06
21 MR. OSTOJC: Object to form. Go ahead. 13:25:54	21 structure of the room, right? 13:28:08
22 BY THE WITNESS: 13:25:56	22 A. It does. 13:28:10
23 A. Common sense, that's all that's needed. 13:25:56	23 Q. Okay. So if the room wasn't structured 13:28:10
24 BY MR. KOPEL: 13:25:58	24 so that the sound would be bouncing off walls, in 13:28:12
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1 Q. So let's talk about Ms. Bueno here. The 13:25:58	1 that scenario, the repeller would not be able to be 13:28:16
2 first criticism I see listed here is that she 13:26:02	2 effective against a spider that's up on the wall 13:28:20
3 plugged the device in four feet above floor level. 13:26:06	3 that's not ground level, is that right? 13:28:22
4 Do you see that? 13:26:08	4 A. Yeah. 13:28:24
5 A. Uh-huh. 13:26:08	5 MR. OSTOJC: Object to form, incomplete 13:28:24
6 Q. If somebody plugs a device into -- a 13:26:10	6 hypothetical, but he gave his answer, 13:28:26
7 Bell & Howell device into an outlet four feet above 13:26:18	7 BY MR. KOPEL: 13:28:26
8 floor level, would that prevent the device from 13:26:20	8 Q. So is it -- now, with regards to 13:28:28
9 being effective in repelling and driving out 13:26:28	9 Ms. Bueno, I think her complaint was about ants. 13:28:32
10 rodents? 13:26:34	10 Do you recall reading that? 13:28:34
11 MR. OSTOJC: Object to form, but go ahead. 13:26:34	11 A. Uh-huh. 13:28:36
12 BY THE WITNESS: 13:26:36	12 Q. Okay. Was the fact that she plugged it 13:28:36
13 A. It certainly wouldn't improve it. 13:26:36	13 in at four feet a problem for repelling ants in 13:28:40
14 Maximum efficacy is going to be found when the 13:26:42	14 that did it cause the devices to become incapable 13:28:48
15 sound is at the level at which the organisms you're 13:26:44	15 of repelling ants at that height? 13:28:52
16 trying to repel are found which means mice and rats 13:26:48	16 A. The problem was that she plugged it into 13:28:54
17 on the floor. Ants and spiders might be 13:26:50	17 the wall behind her kitchen counter so that the 13:28:56
18 appropriate for four feet, but they're more likely 13:26:56	18 sound was pointed away from the wall where the ants 13:29:00
19 to be higher up for spiders because they like the 13:26:58	19 were. 13:29:02
20 corners of ceilings. Ants are where you find them. 13:27:00	20 Q. I really want to talk about that, but I 13:29:02
21 BY MR. KOPEL: 13:27:06	21 just want to focus on one thing at a time. Four 13:29:06
22 Q. So depending if you wanted to repel 13:27:06	22 feet above ground level, did that cause the devices 13:29:08
23 rodents or spiders, you might need to plug the 13:27:14	23 to become incapable of repelling the pests -- the 13:29:12
24 device in at different heights, is that correct? 13:27:18	24 ants, excuse me? 13:29:16
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1	A. Not if it was pointed towards them at	13:29:18	1	MR. OSTOJC: Same objections.	13:31:04
2	that height.	13:29:22	2	BY THE WITNESS:	13:31:06
3	Q. So four feet in and of itself was not a	13:29:22	3	A. Probably the lower levels of cupboards	13:31:06
4	problem?	13:29:24	4	or pantries. It depends on how good you are about	13:31:10
5	A. No.	13:29:24	5	storing foods, whether you keep them in containers	13:31:14
6	Q. But it would be a problem for rodents,	13:29:24	6	which can be penetrated by the machines or in	13:31:20
7	right?	13:29:28	7	plastic.	13:31:24
8	A. Yeah. Plug it into the other wall where	13:29:28	8	BY MR. KOPEL:	13:31:24
9	it faces the countertop would be --	13:29:30	9	Q. Doctor, I know you've described yourself	13:31:24
10	Q. And I want to get to that in a moment,	13:29:32	10	as an obsessive compulsive biologist. Do you know	13:31:26
11	that's the last part of your sentence here. What	13:29:36	11	if people who are not biologists at all, do you	13:31:34
12	about roaches. What height would it need to be	13:29:38	12	know if they typically are very careful about	13:31:40
13	plugged in for roaches?	13:29:40	13	putting away all their food or if that -- you know,	13:31:44
14	MR. OSTOJC: Object to form, foundation.	13:29:44	14	food might be open sometimes that's in the pantry?	13:31:48
15	incomplete hypothetical, but go ahead.	13:29:44	15	A. That depends whether you're dealing with	13:31:50
16	BY THE WITNESS:	13:29:46	16	people with OCD or people who were raised -- you	13:31:52
17	A. I thankfully have had very little to do	13:29:48	17	know, how they were raised will affect how they	13:31:54
18	with roaches in my lifetime in my homes. My best	13:29:50	18	deal with these things. I've seen every level of	13:31:56
19	understanding is that they are usually confined to	13:29:58	19	extreme in my lifetime in other people's homes.	13:32:00
20	floor and under the sinks and damp places, but I'm	13:30:00	20	Q. But even if food is in the pantry,	13:32:02
21	sure that they have occasionally been found to get	13:30:06	21	unless it's very tightly sealed, any of the pests	13:32:08
22	into cupboards and across counters, but I don't	13:30:10	22	that we mentioned, ants, spiders, roaches, mice,	13:32:12
23	know that firsthand.	13:30:12	23	rats, they can all get to it, is that correct?	13:32:18
24	BY MR. KOPEL:	13:30:14	24	MR. OSTOJC: Incomplete hypothetical, but go	13:32:20
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1	Q. If a cupboard is closed, can an	13:30:14	1	ahead.	13:32:20
2	ultrasonic sounds wave penetrate the cupboard to	13:30:16	2	BY THE WITNESS:	13:32:24
3	get at a roach that's inside the cupboard?	13:30:20	3	A. It depends what you sealed it in, but	13:32:24
4	A. No.	13:30:22	4	yes.	13:32:26
5	Q. Same question for rodents?	13:30:22	5	BY MR. KOPEL:	13:32:26
6	A. No.	13:30:26	6	Q. What about underneath a sink?	13:32:26
7	Q. Same question for ants?	13:30:26	7	Underneath a sink typically in most people's	13:32:32
8	A. No.	13:30:28	8	kitchens there is kind of a cupboard, is that	13:32:36
9	Q. Same question for spiders?	13:30:28	9	right? Is that your experience?	13:32:38
10	A. No.	13:30:32	10	A. An access for the piping, yes.	13:32:38
11	Q. Would you expect that in the event of an	13:30:32	11	Q. Right. So if that cupboard is not open,	13:32:40
12	infestation, a cupboard would be a typical place	13:30:38	12	would the ultrasonic waves from a device be able to	13:32:44
13	where you might find any of these pests?	13:30:40	13	get inside there?	13:32:48
14	MR. OSTOJC: Object to form, foundation, but	13:30:42	14	A. No.	13:32:50
15	go ahead.	13:30:44	15	Q. So if roaches are living underneath the	13:32:52
16	BY THE WITNESS:	13:30:48	16	sink, would the Bell & Howell repellents be	13:32:56
17	A. I think, if you did, that the first	13:30:48	17	effective at driving them out?	13:33:02
18	thing you'd do is take all the foods out of that	13:30:50	18	MR. OSTOJC: Object to incomplete	13:33:04
19	cupboard and throw them away.	13:30:52	19	hypothetical, but go ahead.	13:33:06
20	BY MR. KOPEL:	13:30:54	20	BY THE WITNESS:	13:33:06
21	Q. That seems sensible, yes. But would	13:30:54	21	A. Open the doors and point the repeller at	13:33:06
22	that be a typical place where you might actually	13:30:56	22	them.	13:33:10
23	find these pests in the event of a home	13:31:00	23	BY MR. KOPEL:	13:33:10
24	infestation?	13:31:02	24	Q. I see. So under those circumstances,	13:33:10
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1 you would need to keep those doors open, okay. 13:33:12	1 says deposition of Sandra Bueno, top left 13:36:04
2 A. I mean that's common sense. 13:33:20	2 corner -- top left quadrant? 13:36:08
3 Q. But in this instance, you don't think 13:33:28	3 A. Uh-huh. 13:36:08
4 the fact that Ms. Bueno plugged it in four feet 13:33:30	4 Q. So you recognize this to be a deposition 13:36:10
5 above floor level caused her to witness an ant 13:33:34	5 transcript? 13:36:12
6 infestation, is that right? 13:33:38	6 A. Yes. 13:36:12
7 A. It didn't cause her to witness it, and 13:33:40	7 Q. And you read this, right? Maybe perhaps 13:36:12
8 it didn't remove it because it was pointed the 13:33:42	8 not in this form, but you read the deposition 13:36:14
9 wrong direction. 13:33:44	9 transcript? 13:36:16
10 Q. And I promise we're going to get to it. 13:33:46	10 A. Right. 13:36:18
11 okay. We're about to get to that. Four feet, is 13:33:48	11 Q. Okay. In order to save time -- you 13:36:28
12 that kind of -- is that immaterial in terms of 13:33:52	12 didn't reference where you got each of these 13:36:32
13 diagnosing the source of Ms. Bueno's issue? 13:33:54	13 issues. You've identified where in the transcript 13:36:36
14 A. Probably. 13:33:58	14 they are, but I'll direct you beginning on page 56. 13:36:38
15 Q. Why did you put it in this paragraph? 13:34:00	15 Each quadrant of the page is a new page you'll see. 13:36:44
16 A. Well, it reminds me that it was on top 13:34:04	16 A. Right. 13:36:48
17 of the counter. 13:34:06	17 Q. And that's where she begins to discuss 13:36:48
18 Q. Okay. 13:34:08	18 placement of the units. 13:36:50
19 A. That's what determined the height of the 13:34:08	19 Okay. So do you see on page 56, lines 13:37:02
20 outlet. And, yes, it's the right thing to do for 13:34:10	20 16 to 17, Ms. Bueno testifies that she plugged the 13:37:10
21 ants on the counter except that it wasn't pointed 13:34:16	21 unit in "in the wall between my kitchen and my 13:37:16
22 in the right direction. 13:34:18	22 dining room, the left side of my unit," do you see 13:37:20
23 Q. I'll show you the transcript. I think 13:34:20	23 that? 13:37:22
24 you might be mixing her up with Ms. Hart, but I'm 13:34:22	24 A. Yes. 13:37:22
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1 happy to show you the transcript, and it will 13:34:24	1 Q. And on line 20 she identifies that the 13:37:22
2 refresh your recollection, but I'll represent to 13:34:30	2 outlet was located -- it was in a regular outlet in 13:37:28
3 you that Ms. Hart was the one who plugged it in on 13:34:30	3 the middle of the wall, do you see that? 13:37:32
4 the counter, Ms. Bueno plugged it in four feet, I 13:34:34	4 A. Yes, but does the middle of the wall 13:37:34
5 believe, in a wall, and I'll show you the 13:34:38	5 mean middle of the height between the floor and an 13:37:36
6 transcript. 13:34:40	6 eight-foot ceiling which is what I assumed that it 13:37:40
7 A. Okay. 13:34:40	7 meant? 13:37:42
8 Q. You know what, let me show it to you 13:34:44	8 Q. Well, you don't need to -- 13:37:42
9 right now. 13:34:46	9 A. Next to your light switches. 13:37:44
10 MR. KOPRI: I'll ask the Court Reporter to 13:34:58	10 Q. Well, she identifies on page 57 -- and 13:37:44
11 please mark as Exhibit Whitford 5 the deposition 13:35:10	11 this is an estimate, I believe. She says on 13:37:48
12 transcript of Sandra Bueno. 13:35:14	12 page 57, line 14, she says about four feet. Do you 13:37:50
13 (WHEREUPON, a certain document was 13:35:14	13 see that? 13:37:56
14 marked Whitford Deposition Exhibit	14 A. Okay. 13:37:56
15 No. 5, for identification, as of	15 Q. And so in -- 13:37:56
16 01/12/2018.)	16 A. Four feet from ground level. I'm not 13:38:06
17 By MR. KOPEL:	17 sure what you're asking about. 13:38:10
18 Q. Dr. Whitford, do you have Exhibit 5? 13:35:34	18 Q. Oh, I don't think there is a question 13:38:12
19 A. I do now. 13:35:38	19 pending right now. 13:38:12
20 Q. Have you seen this before? 13:35:40	20 A. Okay. 13:38:14
21 A. Not in this exact form, but certainly 13:35:46	21 Q. Okay. In your report, you said she had 13:38:14
22 I've seen the information. 13:35:48	22 a solid object in front of the unit. Do you recall 13:38:18
23 Q. What is this? It's not a test. It's on 13:35:52	23 what that is referencing? 13:38:22
24 the first page. Do you see on the first page it 13:36:00	24 A. I don't recall absolutely. 13:38:28
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1 Q. And if it helps refresh your 13:38:32
 2 recollection, I believe pages 59 and 60 talk about 13:38:34
 3 what was located in the room. 13:38:40
 4 A. Okay. So she says on the same side as 13:39:46
 5 the kitchen window. The trying to figure out where 13:39:48
 6 the bar is relative to the kitchen. The bar she 13:40:20
 7 sees things on, I was assuming that meant -- 13:40:32
 8 Q. So the bar here -- my understanding of 13:40:34
 9 the testimony is it's in between the kitchen and 13:40:36
 10 the dining room. That's on page 56, line 16. It's 13:40:40
 11 the wall between her kitchen and her dining room. 13:40:50
 12 Here, if you look at line 23, "What separates the 13:40:56
 13 kitchen from the dining room is a counter. You 13:40:58
 14 have the counter, then you have a raised counter 13:40:58
 15 like a bar where you can put bar stools or 13:41:00
 16 something." Question, "So peninsula?" 13:41:02
 17 A. Okay. So the question is, is that 13:41:06
 18 interfering with the height of the plugged in unit? 13:41:08
 19 It's a raised bar next to the counter potentially 13:41:20
 20 blocking. 13:41:24
 21 Q. Okay. So take a look at page 57 here 13:41:42
 22 starting on line 3: "You're in the kitchen, there 13:41:50
 23 is the counter that you use to prepare your food, 13:41:52
 24 and then raised up is another formica counter which 13:41:54
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1 is higher where you can put bar stools on the other 13:41:58
 2 side, you know what I'm saying?" "Yes. To the 13:42:00
 3 left of that is an outlet for a phone or whatever, 13:42:02
 4 blender, whatever, and that's where I put it right 13:42:06
 5 there." 13:42:08
 6 A. To the left of that counter on the wall 13:42:08
 7 of the kitchen above the counter means that it's 13:42:12
 8 blocked. 13:42:14
 9 Q. So, in other words, the obstruction 13:42:16
 10 you're referring to was that there was a bar in her 13:42:18
 11 house? 13:42:24
 12 A. Raised high enough to be a barrier to 13:42:24
 13 the sound moving in the direction of the living 13:42:28
 14 room. 13:42:30
 15 Q. Understood. So the unit is plugged in 13:42:32
 16 in the room, but because there is kind of a 13:42:34
 17 peninsula in the room, a peninsula of counter 13:42:38
 18 space, it can't -- 13:42:40
 19 A. It's directing it just across the 13:42:42
 20 short -- 13:42:42
 21 MR. OSTONIC: Wait, wait. 13:42:46
 22 MR. KOPEL: All right, that's fine. 13:42:46
 23 BY MR. KOPEL: 13:42:46
 24 Q. You said it's directing that just across 13:42:46
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1 the short space, right? 13:42:50
 2 A. Yes. 13:42:50
 3 Q. Okay. Because on the other side of 13:42:50
 4 counter the sound waves can't reach, right? 13:42:52
 5 A. Right. 13:42:54
 6 Q. And even to the right and to the left of 13:42:54
 7 that bar, the sound waves can't reach, right? 13:42:58
 8 A. Yes. 13:43:00
 9 Q. Do you have a setup like that in your 13:43:02
 10 kitchen? 13:43:16
 11 A. Absolutely. 13:43:16
 12 MR. OSTONIC: Object to form 13:43:18
 13 BY MR. KOPEL: 13:43:18
 14 Q. So you have -- can you describe your 13:43:18
 15 kitchen, please? 13:43:20
 16 A. It is connected to the main dining room 13:43:26
 17 and living room with a barrier coming off to the 13:43:28
 18 right hand of the stoves and ovens and up to the 13:43:36
 19 wall, a diagonal piece with a sink and then heading 13:43:42
 20 directly across at a height suitable for having bar 13:43:46
 21 stools and people sitting there holding a 13:43:50
 22 conversation while you're working on things in the 13:43:54
 23 kitchen, a dishwasher underneath it, and then 13:43:54
 24 everything to the north is counter, windows, walls 13:43:58
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1 around to the back. 13:44:02
 2 Q. Okay, thank you, that's helpful. If you 13:44:04
 3 wanted to use the Bell & Howell repellers 13:44:06
 4 effectively in your kitchen, how many units would 13:44:10
 5 you need? 13:44:12
 6 A. There are three changes in height, so I 13:44:20
 7 would suggest three, but it's a very large kitchen, 13:44:24
 8 I would use that anyway. 13:44:28
 9 Q. Do you know how many square feet it is? 13:44:28
 10 A. As I say, it's continuous with my main 13:44:32
 11 living room and dining room. 13:44:34
 12 Q. Okay. 13:44:36
 13 A. That entire space is well over 1,500 13:44:38
 14 square feet. 13:44:40
 15 Q. And you think three units could cover 13:44:42
 16 that space, or we're just talking about the kitchen 13:44:44
 17 area? 13:44:46
 18 A. We're just talking about the kitchen 13:44:46
 19 area. 13:44:48
 20 Q. Okay. Do you know what the square 13:44:48
 21 footage of the kitchen is? 13:44:50
 22 A. 450. 13:44:56
 23 Q. Okay. So now let's move on to what I 13:44:58
 24 believe is your -- uh, we're not up to your 13:45:06
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1 favorite pun yet. You say here. "Once she sealed	13:45:12	1 (WHEREFORE, a certain document was	13:48:06
2 the ceiling crack where the ants were entering, she	13:45:18	2 marked Whiteford Deposition Exhibit	
3 had only a few ants that she felt entered from	13:45:20	3 No. 6, for identification, as of	
4 outside near/via the kitchen window."	13:45:22	4 01/12/2018.)	
5 Okay. So did I read that correctly?	13:45:24	5 BY MR. KOPEL:	
6 A. Yes.	13:45:28	6 Q. Okay. Can you please -- well, first of	13:48:40
7 Q. Can you look at page 53 of the	13:45:30	7 all. Do you have Exhibit 6?	13:48:42
8 deposition transcript, please? Are you on page 53?	13:45:34	8 A. I do.	13:48:44
9 A. Yes.	13:45:46	9 Q. Have you seen it before?	13:48:44
10 Q. Line 12 reads, "Ants coming in through	13:45:46	10 A. Yes.	13:48:44
11 my wall and across the ceiling into my kitchen, a	13:45:48	11 Q. What is it?	13:48:46
12 lot of them --	13:45:52	12 A. Deposition of Joanne Hart.	13:48:48
13 MR. OSTOJIC: Wait.	13:45:52	13 Q. Okay, great. Can you please turn to	13:48:50
14 BY THE WITNESS:	13:45:54	14 page 77?	13:48:54
15 A. No, not in this one.	13:45:54	15 Okay. Starting at line 3 Ms. Hart	13:49:08
16 BY MR. KOPEL:	13:45:54	16 identifies that it was plugged into an outlet	13:49:10
17 Q. Oh, I'm sorry, 63. I misspoke.	13:45:56	17 between a sliding glass door and an entertainment	13:49:14
18 Okay. So do you see lines 12 to 16	13:46:06	18 center, but it had no obstruction, do you see that?	13:49:16
19 Ms. Bueno is identifying that the ants were coming	13:46:10	19 A. Yes, I do.	13:49:18
20 in from the same wall in which the repeller was	13:46:12	20 Q. Okay. When you stated obstruction	13:49:20
21 plugged in?	13:46:16	21 earlier, were you referencing this entertainment	13:49:24
22 A. Uh huh.	13:46:16	22 center that's next to it?	13:49:26
23 MR. OSTOJIC: Object to form, foundation.	13:46:16	23 A. Well, she also says she had two in the	13:49:28
24 BY MR. KOPEL:	13:46:18	24 living room which are more likely to be the ones	13:49:30
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1 Q. Is that a yes?	13:46:18	1 I'm concerned with.	13:49:34
2 A. Yes.	13:46:20	2 Q. Okay. Where are you looking right now?	13:49:34
3 Q. And under those circumstances, it's your	13:46:26	3 At line 11, right?	13:49:38
4 opinion Ms. Bueno couldn't have expected the	13:46:30	4 A. I see it, yes.	13:49:38
5 repeller to work because it can't possibly repel or	13:46:34	5 Q. Okay. Then one was on the counter in	13:49:40
6 drive our pests that are coming in from the same	13:46:38	6 the kitchen, do you see that?	13:49:44
7 wall that it's plugged into. Is that right?	13:46:44	7 A. Okay.	13:49:44
8 A. There is that, and it wasn't certainly	13:46:46	8 Q. That's on lines 14 and 15 on page 77, do	13:49:44
9 going to stop them from coming in from the dining	13:46:48	9 you see that?	13:49:48
10 room because it wasn't pointed there.	13:46:50	10 A. Okay.	13:49:48
11 Q. Right, okay. Now, with regards to	13:46:54	11 Q. So without -- I mean can you identify	13:49:56
12 Ms. Hart, in the interest of time, do you remember	13:47:00	12 what the obstruction you are referring to is, or	13:50:00
13 what, without using the deposition transcript.	13:47:26	13 are you not able to right now?	13:50:02
14 obstruction you're referring to?	13:47:26	14 A. I would have to go through.	13:50:04
15 A. I do not, but she specifically described	13:47:50	15 Q. Well, okay, hold on. Actually, let's go	13:50:06
16 something that was blocking it.	13:47:54	16 back.	13:50:08
17 Q. Okay. We'll take a quick look.	13:47:58	17 A. "Was there furniture along that wall?"	13:50:08
18 Hopefully we can find it without wasting too much	13:48:00	18 "The only thing that was there is jewelry	13:50:10
19 time.	13:48:02	19 cabinets."	13:50:12
20 MR. KOPEL: I'll ask the Court Reporter to	13:48:02	20 Q. Sorry to interrupt you. I think I found	13:50:14
21 please mark as Exhibit 6 the deposition of Joanne	13:48:04	21 what might be what you're looking for. Take a look	13:50:16
22 Hart.	13:48:06	22 at page 76, please, starting with line 16;	13:50:16
23		23 Question: "What kind of furniture did you have in	13:50:24
24		24 your living room?" Answer: "I have a couch, two	13:50:26
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1	end tables on the couch, a leather chair, a lounge	13:50:28	1	So you have Potter Exhibit 3? The only	13:53:02
2	chair, a coffee table, an entertainment center, a	13:50:32	2	question is do you have Potter Exhibit 3?	13:53:06
3	television." Do you see that?	13:50:32	3	A. I have Potter, yes.	13:53:08
4	A. Uh-huh.	13:50:34	4	Q. Yeah, okay. Can you please look at the	13:53:10
5	Q. Is that what you were referring to?	13:50:34	5	third page, and actually I'm going to focus you in,	13:53:12
6	A. Probably,	13:50:36	6	please, on pages 3, 4, 5 and 6 of this document,	13:53:16
7	Q. So if somebody has all of that furniture	13:50:38	7	and I will represent to you that these -- actually,	13:53:20
8	in their living room, would that obstruct the	13:50:42	8	I don't need to represent them to you,	13:53:24
9	devices and prevent them from being effective?	13:50:52	9	Can you please look at page 3?	13:53:24
10	MR. OSTOJIC: Object to form, foundation.	13:50:54	10	A. Yes.	13:53:28
11	incomplete hypothetical, but go ahead.	13:50:56	11	Q. I'm sorry, you know what, I miscounted.	13:53:32
12	BY THE WITNESS:	13:50:58	12	5, page 5. Do you see here is a photocopy of a	13:53:36
13	A. It would have at least provided what	13:50:58	13	package shipping label here, something was shipped	13:53:40
14	they would have considered a sound shadow if that	13:51:02	14	to Michael Donahue?	13:53:52
15	entertainment center was, you know, this far away	13:51:04	15	A. Oh, okay.	13:53:58
16	from the device plugged in between the sliding	13:51:08	16	Q. Do you see here there is a photocopy of	13:53:58
17	glass door and it in a narrow space.	13:51:10	17	a shipping label where a package was shipped to	13:54:00
18	BY MR. KOPPEL:	13:51:14	18	Michael Donahue? Is that a yes?	13:54:04
19	Q. Oh, so if the outlet -- so the outlet is	13:51:14	19	A. Yes.	13:54:06
20	located between the glass door and the	13:51:18	20	Q. You see it says, "Contents, three	13:54:06
21	entertainment center, even though there is nothing	13:51:20	21	4-packs ultrasonic pest repeller, Bell & Howell	13:54:08
22	directly in front of it, the fact that the	13:51:22	22	new," do you see that?	13:54:12
23	entertainment center is right next to it, that's	13:51:24	23	A. Yes.	13:54:12
24	the problem?	13:51:26	24	Q. Turn to the next page, please. Do you	13:54:14
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1	A. It provides partial.	13:51:26	1	see her here -- here is pictures of what the	13:54:18
2	Q. Understood. So that's the obstruction.	13:51:28	2	package units look like, do you see that?	13:54:22
3	Okay, thanks for helping me understand.	13:51:30	3	A. I do.	13:54:24
4	A. Yeah.	13:51:32	4	Q. Please look at the next two pages. Do	13:54:24
5	Q. Now, have you read instruction -- what	13:51:36	5	you recognize what these pages depict?	13:54:30
6	are you basing -- your statement here about the	13:51:40	6	A. I do.	13:54:36
7	height at which the repeller is plugged in was	13:51:44	7	Q. Okay. What is it?	13:54:38
8	contrary to instructions, what is that based on?	13:51:48	8	A. It's the instructions that came with ar	13:54:40
9	A. I had read through the instructions that	13:51:54	9	less this form of Bell & Howell ultrasonic pest	13:54:42
10	came with it.	13:52:00	10	repeller.	13:54:48
11	Q. Okay.	13:52:00	11	Q. Okay, good. Can you please identify for	13:54:48
12	A. That suggests that you need to put it in	13:52:02	12	me where it states the height in which it's	13:54:52
13	at the height and directing towards the source of	13:52:04	13	supposed to be plugged in?	13:54:54
14	your problem.	13:52:08	14	A. I do not see that on this one.	13:55:18
15	Q. Okay. Well, I'll show you a copy of	13:52:10	15	Q. Can you direct me to where the	13:55:20
16	instructions and maybe you can help me find it.	13:52:16	16	instructions say that the units need to be directed	13:55:22
17	A. Okay.	13:52:20	17	towards probable entrance points of insects and	13:55:26
18	Q. I'm going to hand to you a document	13:52:34	18	such?	13:55:28
19	which was previously marked as Potter Exhibit 3.	13:52:36	19	MR. OSTOJIC: Object to form, foundation.	13:55:30
20	A. Do you need to stamp and mark this?	13:52:48	20	You're talking about just this page on the Exhibit,	13:55:32
21	Q. No.	13:52:50	21	correct?	13:55:36
22	A. Okay. So we've moved off from --	13:52:52	22	BY MR. KOPPEL:	13:55:36
23	Q. Yes. Well, we'll come back to that	13:52:56	23	Q. Well, you've identified this as the	13:55:38
24	report, but let's focus on this for now, please.	13:52:58	24	instructions, have you not?	13:55:40
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1	MR. OSTOJC: But you want him just on that	13:55:50	1	A. Yes.	13:59:14
2	page?	13:55:52	2	Q. Okay. Do you see in any of these	13:59:14
3	BY MR. KOPEL:	13:55:52	3	instructions where it states a direction for the	13:59:16
4	Q. No, you could look at any page of this	13:55:52	4	unit to be pointed in?	13:59:22
5	Exhibit if you'd like.	13:55:54	5	MR. OSTOJC: Object to form.	13:59:26
6	MR. OSTOJC: And I don't want to -- but the	13:55:56	6	BY THE WITNESS:	13:59:40
7	label in front of the product has also	13:55:58	7	A. I do not.	13:59:40
8	instructions, that's why I didn't know if you	13:56:02	8	BY MR. KOPEL:	13:59:42
9	wanted that as well. This is the owner's manual.	13:56:04	9	Q. Same question for the height at which it	13:59:42
10	MR. KOPEL: Do you have extra copies of that?	13:56:06	10	needs to be plugged in, do you see that here?	13:59:44
11	Can I have that sheet, do you mind? I actually	13:56:08	11	A. I do not.	13:59:46
12	don't need extra copies. I can use that one label.	13:56:12	12	MR. KOPEL: I will mark an Exhibit which	13:59:56
13	MR. OSTOJC: Yeah.	13:56:18	13	opposing Counsel kindly gave to me as Whitford	13:59:58
14	MR. KOPEL: Okay, great, thanks.	13:56:18	14	Exhibit 7	14:00:02
15	BY MR. KOPEL:	13:56:18	15	(WHEREUPON, a certain document was	14:00:02
16	Q. I think there was a question pending,	13:56:24	16	marked Whitford Deposition Exhibit	
17	I'm sorry. Have you located anywhere in these	13:56:26	17	No. 7, for identification, as of	
18	instructions where it says --	13:56:30	18	01/12/2018.)	
19	A. On this page, no.	13:56:30	19	BY MR. KOPEL:	
20	Q. Let me just finish my question so the	13:56:32	20	Q. Okay. Same two questions with regards	14:00:30
21	record is not confusing. Have you located anywhere	13:56:34	21	to Exhibit 7, do you see anywhere on there where it	14:00:32
22	in these instructions where it says which direction	13:56:38	22	says the height or direction in which consumers are	14:00:34
23	to point the units in?	13:56:40	23	supposed to plug in the devices?	14:00:38
24	A. Let me go back and see if in my notes I	13:56:46	24	A. I do not.	14:00:54
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1	had that because I know at one point I wrote down	13:56:56	1	Q. Now, if these instructions were not	14:01:00
2	the directions in detail.	13:57:04	2	included with the packaging, would consumers have	14:01:06
3	I don't see that.	13:57:20	3	had any way to know the height and direction in	14:01:10
4	Q. And, by the way, a portion of your	13:57:22	4	which the repellents were required to be plugged in?	14:01:12
5	report is devoted to your review of the directions,	13:57:24	5	A. One would say common sense means you	14:01:20
6	instructions, right?	13:57:26	6	point them towards where the problem is, height and	14:01:24
7	A. Uh-huh.	13:57:28	7	direction.	14:01:28
8	Q. Okay. Please take a quick look at that.	13:57:28	8	Q. So you think average lay people	14:01:38
9	portion of Exhibit 1, UPR claims and instructions	13:57:34	9	understand that ultrasonic sound is unidirectional?	14:01:40
10	for pest repellents, that's Exhibit 1, your initial	13:57:40	10	A. I don't know.	14:01:50
11	report. Keep that Exhibit handy, please, but	13:57:44	11	Q. Well, if I turn on a stereo and listen	14:01:50
12	please take a look at Exhibit 1, your initial	13:57:48	12	to a rock album, does the sound of the rock album	14:01:54
13	report.	13:57:50	13	permeate the entire room, or does it only go in a	14:01:58
14	A. This one, okay. Now, what page?	13:58:16	14	straight line?	14:02:00
15	Q. There is no pages numbers, but the	13:58:20	15	A. It tends to permeate the whole room.	14:02:02
16	section is called UPR claims and instructions for	13:58:22	16	Q. But ultrasonic sound does not, correct?	14:02:06
17	BHH pest repellents.	13:58:26	17	A. Correct.	14:02:08
18	A. Oh, okay.	13:58:54	18	MR. OSTOJC: Object to form.	14:02:10
19	Q. Do you see that section? Yeah, if you	13:58:54	19	BY MR. KOPEL:	14:02:10
20	just flip the page you were already on.	13:58:58	20	Q. And you think that average lay person	14:02:16
21	A. Okay. So you don't want these things	13:59:02	21	consumers know the distinction between those two	14:02:12
22	which are definitely on the surface of the package?	13:59:06	22	types of sounds?	14:02:16
23	Q. I'm sorry, are you at the section	13:59:10	23	MR. OSTOJC: Object to form, foundation.	14:02:20
24	entitled UPR claims and instructions for --	13:59:12	24	BY THE WITNESS:	14:02:22
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1 A. Perhaps not. 14:02:22
 2 MR. KOPEL: Let's go off the record very 14:02:38
 3 briefly, please. 14:02:38
 4 THE VIDEOGRAPHER: We're off the record at 14:02:40
 5 1:56 p.m. 14:02:42
 6 (WHEREUPON, a short break was had.) 14:08:04
 7 THE VIDEOGRAPHER: We are back on the record 14:08:04
 8 at 2:01 p.m. at the beginning of media 4. 14:08:12
 9 BY MR. KOPEL: 14:08:12
 10 Q. Dr. Whitford, can you please turn to 14:08:18
 11 page 2 of your rebuttal report in this case? 14:08:18
 12 Please let me know when you have it. 14:08:28
 13 A. I have it. 14:08:30
 14 Q. Okay. So there is a section here 14:08:30
 15 titled, "Specific comments relative to the study 14:08:34
 16 cited by Dr. Potter to support his claims that 14:08:36
 17 ultrasonic pest repellents have been shown to be 14:08:40
 18 ineffective in studies," do you see that? 14:08:42
 19 A. I do. 14:08:44
 20 Q. I want to talk with you about some of 14:08:46
 21 the studies you've addressed here, please. The 14:08:48
 22 first portion addresses some studies regarding 14:08:52
 23 electromagnetic technology, do you see that? 14:09:00
 24 A. I do. 14:09:04

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1 Q. Okay. Have you personally seen any 14:09:06
 2 evidence showing that electromagnetic technology is 14:09:08
 3 effective at repelling or driving out rodents? 14:09:14
 4 A. Do you mind if I just say it's 14:09:18
 5 irrelevant to this because none of them use it 14:09:20
 6 without ultrasound. 14:09:24
 7 Q. So you're sure that welcome to say that, 14:09:26
 8 but I would prefer a yes or no answer to my 14:09:30
 9 question in addition to that. 14:09:32
 10 A. Okay. And the question was efficacy of 14:09:32
 11 electromagnetic? 14:09:32
 12 MR. KOPEL: Can you please repeat the 14:09:38
 13 question? 14:09:40
 14 (WHEREUPON, the record was read 14:09:40
 15 as requested.) 14:09:40
 16 BY MR. KOPEL: 14:09:40
 17 Q. Did you hear the question? 14:09:40
 18 A. I did, and the answer is no. 14:10:10
 19 Q. Same question for insects, 14:10:12
 20 A. No. 14:10:16
 21 Q. Now, I know you have cited a lot of 14:10:22
 22 studies here. I want to talk to you about some of 14:10:34
 23 them. I'm going to show you some of them, and I'm 14:10:36
 24 going to try to do this in an organized fashion so 14:10:40

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1 we're not stuck here all day. 14:10:42
 2 A. Okay. 14:10:44
 3 Q. So regarding the Lund studies, Lund 1984 14:10:44
 4 then Lund 1987, do you see that? 14:10:50
 5 A. Yes. 14:10:52
 6 Q. So here you write that the study 14:10:54
 7 concluded that findings strongly indicate that a 14:11:00
 8 practical effect in a warehouse, stable, store room 14:11:02
 9 or almost any other large building is out of the 14:11:04
 10 question, but since the Bell & Howell product 14:11:06
 11 instructions recommend use in an average size room. 14:11:10
 12 this study has no bearing on the efficacy of BH 14:11:14
 13 ultrasonic pest repellents. Did I accurately 14:11:18
 14 summarize what you wrote here? 14:11:22
 15 A. Yes. 14:11:24
 16 MR. KOPEL: I'll ask the Court Reporter to 14:11:28
 17 please mark as Exhibit 8 a Lund 1984 study. 14:11:30
 18 (WHEREUPON, a certain document was 14:11:30
 19 marked Whitford Deposition Exhibit 14:11:30
 20 No. 8, for identification, as of 14:11:30
 21 01/12/2018.)
 22 BY MR. KOPEL: 14:11:54
 23 Q. Do you have Exhibit 8? 14:11:54
 24 A. I do now. 14:11:56

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1 Q. Have you seen this before? 14:11:58
 2 A. No. 14:11:58
 3 Q. Do you see here that there is a letter 14:12:02
 4 written by Magnus Lund on the left side of the 14:12:06
 5 page? 14:12:12
 6 A. I see that, yes. 14:12:12
 7 Q. And you see this is dated December 1984? 14:12:14
 8 On the bottom of the page, December 1984. 14:12:24
 9 A. Okay, yes, pest control 1984. 14:12:28
 10 Q. And can you please look at the third 14:12:30
 11 column here, the end of the first paragraph uses 14:12:32
 12 the language "strongly indicates that a practical 14:12:40
 13 effect in a warehouse situation, in a stable, in a 14:12:44
 14 store room, or almost any other building is out of 14:12:46
 15 the question," do you see that? 14:12:48
 16 A. Yes, I do. 14:12:50
 17 Q. And that's the same language you use in 14:12:50
 18 your report, right? 14:12:52
 19 A. Right. 14:12:54
 20 Q. Can you please look at the second 14:12:54
 21 column, paragraph 3 starting with the words "the 14:12:56
 22 test procedure," do you see that? 14:13:04
 23 A. Yes. 14:13:04
 24 Q. This reads, "The test procedure has been 14:13:06

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1 the most favorable from a producer's viewpoint; a 14:13:06	1 A. I accessed a number of them that I 14:15:56
2 small area to be protected and no obstacles to 14:13:10	2 could; but when you get to older papers, for the 14:15:58
3 create sound shadows. As a routine, an established 14:13:12	3 most part they have not been transferred to 14:16:04
4 rat population in a rodent proof room, 4.5 by 4.5 14:13:16	4 electronic format and accessible. And when you 14:16:08
5 meters, provided with a surplus of shelter, home 14:13:22	5 get to specific papers on a given part of science, 14:16:10
6 cages and straw, laboratory good and water, was 14:13:26	6 often papers like this are only available to people 14:16:16
7 allowed to explore a neighboring identical room and 14:13:30	7 who are members of the society that is responsible 14:16:20
8 feed from a tray with a weighted amount of wheat. 14:13:30	8 for pest control or entomology studies. 14:16:24
9 Rooms were connected by a small doorway, 1.5 by 1.5 14:13:34	9 I can access almost any paper in the 14:16:28
10 centimeters, at floor level. The ultrasound device 14:13:36	10 Wildlife Society's archives because I've been a 14:16:30
11 was installed in an empty room, the loud speaker 14:13:38	11 member for 42 years, but I don't have access to 14:16:32
12 pointing against the feeding tray from a distance 14:13:42	12 papers of societies I don't belong to in journals 14:16:36
13 of 3.5 meters," do you see that? 14:13:42	13 which are out of print anymore and most of which 14:16:42
14 A. Yes. 14:13:44	14 have been removed from the shelves of libraries and 14:16:44
15 Q. So do you understand that the size of 14:13:46	15 institutions in the last two decades. 14:16:46
16 the room here was 4.5 by 4.5 meters? 14:13:46	16 Q. I see. Did you ask a librarian for help 14:16:50
17 MR. OSTROM: Objection, foundation, form. 14:13:50	17 at your University? 14:16:52
18 That paragraph indicates that, but I don't know 14:13:54	18 A. I have not asked because I'm not 14:16:54
19 what all the other stuff say, but go ahead and 14:13:56	19 actually there. 14:16:58
20 answer. 14:13:58	20 Q. But you're a professor? 14:17:00
21 BY THE WITNESS. 14:14:02	21 A. I'm a professor. I did not. But they 14:17:00
22 A. 4.5 by 4.5 meters, okay. Does it 14:14:02	22 themselves would have limited access to those 14:17:06
23 indicate the second of the same size? 14:14:08	23 special society papers. They may or may not be 14:17:10
24 BY MR. KOPEL: 14:14:12	24 able to request papers from those sources because 14:17:20
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1 Q. Sure, it says here neighboring identical 14:14:12	1 if you're not a member of the society, you have to 14:17:28
2 room. 14:14:16	2 pay to go online to get that. 14:17:30
3 A. Okay, I just hadn't picked up on that. 14:14:16	3 Q. Which of these studies have you read? 14:17:40
4 Okay. 14:14:20	4 A. Let's see, of these the -- 14:17:50
5 Q. In your opinion is 4.5 by 4.5 meters a 14:14:22	5 MR. OSTROM: Object to form. Go ahead. 14:17:58
6 large room? 14:14:28	6 BY THE WITNESS: 14:18:06
7 A. Yes, but I would need to finish reading 14:14:32	7 A. Okay. Most of these I was citing 14:18:06
8 the rest of -- 14:14:34	8 directly from quotes that Dr. Potter gave us 14:18:10
9 Q. Oh, okay, take your time. 14:14:34	9 especially when they're saying that the studies 14:18:14
10 A. -- the test to know what's going on. 14:14:36	10 showed partial repellency as in paragraph 73. 14:18:16
11 I think I've seen enough to recognize 14:15:10	11 temporarily discouraging rodents which shows 14:18:22
12 the habitation by them. 14:15:14	12 efficacy in part, No. 74, 71 where it says 14:18:24
13 Q. Okay, great. But do you remember my 14:15:18	13 occasional temporary repellent effects, each of 14:18:28
14 question? Do you see here that the testing space 14:15:22	14 these contradicts Dr. Potter's claims that they 14:18:32
15 was in a room that was 4.5 by 4.5 meters? 14:15:26	15 have no efficacy. 14:18:32
16 A. I do, but I had not seen this 14:15:30	16 BY MR. KOPEL: 14:18:40
17 previously. 14:15:32	17 Q. I'm sorry, do you recall the question? 14:18:40
18 Q. You had not seen this previously? 14:15:32	18 I think I asked which ones of these have you read? 14:18:42
19 A. All I had was the comments that Potter 14:15:34	19 A. I know that I have accessed the full 14:18:46
20 provided relative to this because I did not access 14:15:40	20 Gould, et al. 1964, I have found the online ones 14:18:50
21 this. Not all of the papers are relatively easy to 14:15:44	21 that were indicated later on, and then again I'm 14:18:58
22 obtain. 14:15:50	22 using the information that was provided on the size 14:19:08
23 Q. I see. And is the same true with all of 14:15:50	23 of the arenas, the presence of food, other 14:19:12
24 these studies listed here? 14:15:52	24 information taken directly from Dr. Potter's 14:19:20
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1	quotes.	14:19:24	1	Q. Okay.	14:40:30
2	When you get to paragraph 68 quoting the	14:19:28	2	A. But the others are too far back, not	14:40:30
3	Kuehler study, the Kuehler study is an overview of	14:19:32	3	changed over to B files. And like this, if they're	14:40:32
4	other studies which have been previously done which	14:19:36	4	this essence, I understand perfectly why.	14:40:36
5	reference in many cases very old studies. And in	14:19:40	5	Q. Okay. But you don't remember which ones	14:40:42
6	this case when we're looking back at those, the	14:19:50	6	you found?	14:40:44
7	conclusions from Kuehler, et al. 1990, this is a	14:19:56	7	A. Not absolutely, no.	14:40:44
8	statement or an opinion. The author has no	14:20:00	8	Q. Aside from Googling, what else did you	14:40:46
9	personal experience working with those animals.	14:20:04	9	do to search for these references?	14:40:50
10	He's just summarizing what other people have	14:20:06	10	A. Well, if you can't find the reference by	14:40:52
11	written. It's hearsay.	14:20:08	11	Googling it with the full title and authors' names	14:40:56
12	MR. KOPEL: Okay. I need to go off the	14:20:12	12	and dates, I can't imagine that, if I sent it to my	14:41:00
13	record, please.	14:20:14	13	University and requested them to find it, they'd	14:41:06
14	THE VIDEOGRAPHER: We're off the record at	14:20:16	14	have any more success with it.	14:41:08
15	2:13 p.m.	14:20:18	15	Q. Okay. You didn't try that, right?	14:41:10
16	(WHEREUPON, a short break was had.)	14:20:46	16	A. I did not partly that there has been a	14:41:12
17	THE VIDEOGRAPHER: We are back on the record	14:38:46	17	great lack of time in my life this last two months	14:41:18
18	at 2:32 p.m.	14:38:52	18	because of my late brother-in-law's severe illness	14:41:20
19	BY MR. KOPEL:	14:38:52	19	and demise and my mother-in-law's illness and	14:41:24
20	Q. Sorry about that, Dr. Whitford. Was	14:38:56	20	demise in the past three weeks.	14:41:28
21	there anything else you wanted to add about	14:38:58	21	Q. I'm super sorry to hear about that.	14:41:30
22	Exhibit 8?	14:39:00	22	A. Yeah, it's been a struggle from July,	14:41:32
23	A. Yes.	14:39:00	23	and I've worked in this at all points because I	14:41:40
24	Q. Go ahead.	14:39:00	24	didn't have to be there to assist, but my wife has	14:41:44
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1	A. Like most of the references that I did	14:39:02	1	been the primary caregiver for those two last	14:41:48
2	find and that are here, this one doesn't have any	14:39:06	2	members of your family.	14:41:50
3	replicates. The duration of the test is 30, 40	14:39:12	3	Q. Okay, understood. I'm sorry to hear	14:41:52
4	minutes. I mean there is no scientific basis that	14:39:16	4	about it.	14:41:54
5	would be acceptable to Dr. Peller in this if he was	14:39:20	5	A. Thank you.	14:41:54
6	trying to review it and look at it and evaluate it.	14:39:24	6	MR. KOPEL: I'll ask the Court Reporter to	14:42:24
7	This is a letter, it's not peer-reviewed.	14:39:32	7	please mark this document Exhibit 9.	14:42:26
8	Q. Okay. Let's go back. I know you	14:39:38	8	(WHEREUPON, a certain document was	14:42:26
9	mentioned that you found Gould. Any others that	14:39:46	9	marked Whitford Deposition Exhibit	
10	you found?	14:39:50	10	No. 9, for identification, as of	
11	A. I found several by putting them in	14:39:52	11	(11/2/2018.)	
12	online. I don't have -- I didn't particularly mark	14:40:00	12	BY MR. KOPEL:	
13	down which.	14:40:04	13	Q. Do you have Exhibit 9?	14:42:54
14	Q. Okay. So certain of these studies you	14:40:06	14	A. Okay. I've not seen this before.	14:45:44
15	found?	14:40:08	15	Q. Okay. Well, you're welcome to. Let me	14:45:48
16	A. A few of these are available online if	14:40:08	16	know when you're --	14:45:52
17	you type in the full --	14:40:10	17	A. I'm ready.	14:45:52
18	Q. Okay.	14:40:12	18	Q. Have you looked this over?	14:45:54
19	A. I went through his citations.	14:40:12	19	A. I have.	14:45:56
20	Q. Yes.	14:40:14	20	Q. What is Exhibit 9?	14:46:02
21	A. At the end of his -- not deposition but	14:40:14	21	A. What is it?	14:46:06
22	his commentary, I went through his list of	14:40:20	22	Q. Yes.	14:46:08
23	citations, typed them in and tried to Google them	14:40:22	23	A. It's a short paper from probably a	14:46:08
24	and got the ones which would come up.	14:40:26	24	manufacturer or test piece. It's not a recognized	14:46:18
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1	Journal of any kind. Alternatives to toxicants for	14:46:22	1	MR. KOPEL: I'll ask the Court Reporter to	14:49:46
2	control of rats and mice. I don't see an author's	14:46:30	2	please mark as Exhibit 10 Ultrasonics and	14:50:04
3	name on it.	14:46:40	3	Electromagnetic Control of Rodents.	14:50:08
4	Q. Oh, do you see the first --	14:46:46	4	(WHITFORDUPON, a certain document was	14:50:08
5	A. Oh, Meehan on the front, okay, so yes.	14:46:50	5	marked Whitford Deposition Exhibit	
6	Q. And if you look at page 266, please.	14:46:56	6	No. 10, for identification, as of	
7	A. Uh-huh.	14:47:00	7	01/12/2018.)	
8	Q. The first full paragraph which starts	14:47:00	8	BY MR. KOPEL:	
9	"to date," it talks about partial repellency.	14:47:04	9	Q. I can see you're reading that. Take as	14:50:58
10	A. Uh-huh.	14:47:10	10	long as you need, just let me know when you're	14:51:00
11	Q. And that's the reference on page 2 of	14:47:10	11	ready, please.	14:51:04
12	your report, correct?	14:47:18	12	A. Yes, I just have to know what they did,	14:51:04
13	A. It is. At the same time, it doesn't say	14:47:18	13	what they concluded.	14:51:10
14	how many replicates were done with each device, or	14:47:22	14	Q. No problem.	14:51:10
15	doesn't tell me how long the creatures were	14:47:24	15	A. Okay. I'm not worrying about the	14:53:18
16	subjected to it, or what the frequencies were that	14:47:26	16	electromagnetic devices since they're not germane	14:53:20
17	they were subjected to in most cases, what the	14:47:30	17	to what we're talking about.	14:53:22
18	decibel levels were.	14:47:34	18	Q. Okay. You've had a chance to review the	14:53:24
19	It does provide one new piece of	14:47:36	19	ultrasound --	14:53:28
20	information that 160 decibels at 20 hertz will kill	14:47:38	20	A. All the ultrasound tests conclude that	14:53:28
21	a mouse in one minute. I haven't seen anything do	14:47:42	21	there is some limited practical dispersal repelling	14:53:30
22	that since I dropped a mouse at five feet with a	14:47:44	22	functions. Must don't give the size and the area	14:53:34
23	high frequency burst of 21,000 cycles per second in	14:47:48	23	for tests. Most of the early -- the ultrasound	14:53:44
24	a lab environment, so there just -- it's a short	14:47:56	24	devices are actually talking about a number of	14:53:50
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1	note, it's not apparently peer-reviewed. It's	14:48:02	1	things which are not ultrasound; 9, 6 and 12	14:53:52
2	informational, but it says that there is some	14:48:08	2	kilohertz, 19 kilohertz, those are not ultrasound.	14:53:58
3	repellency.	14:48:12	3	They go on, 6 to 12 kilohertz, 6 to 9, 9	14:54:04
4	Q. A short-term repellency?	14:48:16	4	to 12, 12 to 16, not ultrasound.	14:54:08
5	A. Yeah. But if you're only doing a	14:48:18	5	Okay. Yeah, you can give them	14:54:14
6	short-term test -- I don't know the size of the	14:48:20	6	non-lethal seizures if you do 25 kilohertz at 120	14:54:20
7	enclosures they were using. I don't -- there is too	14:48:22	7	to 140 decibels. They don't say at what distance.	14:54:24
8	much information lacking for me to give this	14:48:28	8	There is not enough information there to see what	14:54:26
9	evidence.	14:48:32	9	they would do in an average size room or what	14:54:30
10	Q. You've read the entire Exhibit 9, right?	14:48:32	10	prolonged exposure would do. Probably if they	14:54:34
11	A. I have.	14:48:34	11	can't escape, you'd see habituation, which is what	14:54:40
12	Q. Okay. Do you have anything else to add	14:48:48	12	they find, but I don't know how big the place is, I	14:54:42
13	on Exhibit 9?	14:48:52	13	don't know if there is a place a mouse could go to	14:54:46
14	MR. OSTOJIC: Object to form.	14:48:54	14	to get away from the sound.	14:54:50
15	BY THE WITNESS:	14:48:56	15	There is nothing there that indicates	14:54:54
16	A. No.	14:48:56	16	that ultrasound is unequivocally inefficient or	14:54:58
17	BY MR. KOPEL:	14:48:56	17	unable to dispel a mouse, disperse a mouse. It's	14:55:04
18	Q. Okay, thanks.	14:48:56	18	just you have to know what the test conditions,	14:55:10
19	A. They must have been very close to that	14:49:06	19	frequencies, intensities of sound are to be able to	14:55:12
20	mouse or rat to kill it with a burst of ultrasound.	14:49:08	20	judge it.	14:55:16
21	Q. You're the scientist.	14:49:18	21	Q. Are you done?	14:55:16
22	A. It would have been the microwave effect,	14:49:26	22	A. Yes.	14:55:18
23	vibrating its internal cells to fry it just like	14:49:32	23	Q. Are you familiar with this journal?	14:55:20
24	popping dinner in the microwave.	14:49:36	24	Have you seen this journal before?	14:55:24
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1 A. I've seen references to it. Long ago 14:55:26	1 A. They are not providing adequate basis to 14:58:18
2 and far away when I was working on my dissertation 14:55:30	2 make that claim. To be well established means that 14:58:24
3 and working on biological abstracts. I would page 14:55:32	3 it's repeated again and again. If you want an 14:58:26
4 through and find references to it. Beyond that, 14:55:36	4 example of science going bad, it's the fact that 14:58:30
5 it's one of literally thousands of journals which 14:55:40	5 it's impossible to get rid of misinformation 14:58:32
6 publish articles. 14:55:52	6 because people keep citing it long after its time 14:58:36
7 This is pretty much an overview of 14:55:56	7 is done. 14:58:40
8 studies. It's not Marsh and Howard carrying out 14:56:00	8 The Journal of -- New England Journal of 14:58:42
9 recent tests. He's talking about his 1950's tests 14:56:06	9 Medicine analyzed publications from 1990 to '99 in 14:58:46
10 and 1962 tests, nothing after that date that's new, 14:56:12	10 the Lancet and New England Journal of Medicine. It 14:58:50
11 and then they're doing a summary of what they found 14:56:20	11 showed that 90 to 95 percent of those publications 14:58:54
12 in other people's tests, the conclusions of other 14:56:22	12 were rescinded or proved to be false within five 14:58:58
13 people's tests. 14:56:28	13 years of their publication date, but the 14:59:04
14 They're giving us their opinion at the 14:56:28	14 retractions were one page notes in the back part, 14:59:06
15 out of looking at these things without giving us 14:56:32	15 so people keep citing them as being correct and 14:59:12
16 the information to judge any of the tests 14:56:34	16 factual because the retractions don't get the air 14:59:14
17 individually. Unless you know the size of the 14:56:36	17 play that other things do. 14:59:18
18 area, the frequencies, the intensities, I can't 14:56:40	18 You remember the big thing about the 14:59:22
19 tell you from this what's valid and what isn't. 14:56:44	19 Framingham studies and cholesterol and you should 14:59:28
20 final conclusions of it are therefore impossible 14:56:50	20 not eat butter but you should eat margarine, and 14:59:32
21 for me to determine. 14:56:52	21 the fact that ten years later they turned around 14:59:36
22 Q. Is this a peer-reviewed journal, do you 14:56:54	22 and say, whoop, sorry, the margarine, no, it 14:59:38
23 know? 14:56:58	23 doesn't make any difference. In fact it's worse for 14:59:42
24 A. It would be. But this is such a small 14:56:58	24 you because of the trans fats, you go -- but if you 14:59:44
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1 paper it might have been sent as a short 14:57:02	1 look, you can still find many people referencing 14:59:48
2 communication rather than a peer-reviewed paper. 14:57:06	2 the need to take in margarine instead of fat today. 14:59:50
3 This would be the format you'd publish at the end 14:57:10	3 You just can't kill out. 14:59:54
4 of a journal with a short reference -- short 14:57:12	4 Q. Is that why replication is important? 14:59:56
5 statements of opinions and no new data. 14:57:16	5 A. Absolutely, and new publications have to 15:00:00
6 Q. Okay. So you're unsure if this specific 14:57:20	6 come out to say that it's still being tested, we 15:00:04
7 article was peer-reviewed? 14:57:22	7 have not accepted it. When I taught my class, I 15:00:10
8 A. I would find that there is almost no 14:57:24	8 used to teach my students that you have to be 15:00:12
9 chance it was peer-reviewed simply because it 14:57:28	9 heretics. If you are going to contribute anything 15:00:16
10 doesn't offer new data to look at. You get 14:57:30	10 to science, you cannot accept that what's been 15:00:18
11 peer-review when you design a test and execute the 14:57:32	11 written 10, 20, 30, 40 years ago is factual unless 15:00:20
12 test, analyze the test and produce results. You 14:57:36	12 you have gone about questioning it, and they're 15:00:26
13 don't get peer-reviewed for summing up what other 14:57:40	13 citing 60 year old, 50 year old materials and not 15:00:34
14 people have said. 14:57:42	14 revisiting, not checking with new equipment. It's 15:00:38
15 Q. Okay. And do you see here in the little 14:57:46	15 very skeptical. 15:00:44
16 blurb in the front in smaller type, the first page, 14:57:52	16 Q. Okay. I appreciate your detailed 15:00:44
17 is that called an abstract, or what is that? 14:57:56	17 response, and I understand that you disagree with 15:00:50
18 A. It's what can pass for an abstract in 14:57:58	18 the conclusion of the author, but my only very 15:00:52
19 here, but if you don't have a test, there is not 14:58:00	19 simple question is do you see that that was, in 15:00:58
20 really an abstract 14:58:04	20 fact, the author's conclusion that it was well 15:01:02
21 Q. Do you see the second sentence says, "It 14:58:06	21 established that such devices will not exterminate, 15:01:04
22 is well established that such devices will not 14:58:08	22 kill or drive rodents out of a favorable habitat? 15:01:08
23 exterminate, kill or drive rodents out of a 14:58:10	23 A. I can see where that's his conclusion. 15:01:12
24 favorable habitat?" 14:58:14	24 Q. But you disagree with it, right? 15:01:14
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1 A. I don't think he's provided the evidence 15:01:16
 2 to say that absolutely. One thing again is that 15:01:18
 3 the equipment which was used in these, 1950, 1964, 15:01:22
 4 that ultrasound equipment is not going to be 15:01:26
 5 producing the same frequencies and things as what 15:01:28
 6 we're looking at. They tell you -- a lot of the 15:01:32
 7 stuff that they're talking about here is sonic 15:01:36
 8 frequencies. Only a few of these specifically 15:01:38
 9 mention ultrasonics. 15:01:44
 10 Q. The critical thing to keep in mind is 15:01:50
 11 the frequency and decibel level, isn't that 15:01:54
 12 correct? 15:01:58
 13 A. Yes. As long as it's not over 20 15:01:58
 14 kilohertz, it's not ultrasound. 15:02:02
 15 Q. I'm sorry, what number? 15:02:04
 16 A. 20 kilohertz. 15:02:06
 17 Q. 20 kilohertz or more? 15:02:08
 18 A. Yes, it has to be above that. So many 15:02:10
 19 of these I've cited they were saying 6, 9, 12 15:02:14
 20 kilohertz. They tested quite a range of things, 15:02:18
 21 not just ultrasonics. 15:02:20
 22 Q. But certain of these tests cited to here 15:02:22
 23 are, in fact, ultrasonics, is that right? 15:02:26
 24 MR. OSTOICH: Object to form, foundation. 15:02:30
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1 BY THE WITNESS: 15:02:30
 2 A. Repeated exposure for two seconds to a 15:02:30
 3 frequency of 20 kilohertz at 90 to 100 decibels 15:02:34
 4 causes atresia in rats and cardiac hypertrophy. 15:02:38
 5 Q. Are you reading a quote? 15:02:40
 6 A. I am on page 264, but that's not -- 15:02:42
 7 Q. Hold on, I think we're on different 15:02:46
 8 Exhibits right now. 15:02:46
 9 A. Well, this was the last one you gave me. 15:02:52
 10 Q. Yes -- no, that was not. I'm on the 15:02:54
 11 Howard and Marsh Exhibit. 15:02:58
 12 A. Oh, I'm sorry. 15:02:58
 13 Okay, so test results. Frequencies of 4 15:03:06
 14 to 48 kilohertz, that's sonic in ultrasound up to 15:03:16
 15 140 decibels. 9, 6 and 12 kilohertz, 19 kilohertz, 15:03:22
 16 6 to 12 kilohertz, 6 to 9, 9 to 12, 12 to 16 15:03:30
 17 kilohertz. The only thing I'm seeing is a 15:03:34
 18 non-lethal seizure at 25 kilohertz at 120 decibels. 15:03:38
 19 Marsh '62 found some repellency to 15:03:48
 20 rodents but doesn't give us the frequency or the 15:03:52
 21 duration except that, you know, 17 to 27 days later 15:03:54
 22 there were no rodent -- there were rodent tracks in 15:04:00
 23 the elevators again. 15:04:02
 24 And Graves & Rowe, '69, concluded 15:04:08
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1 strategically placed ultrasound devices may prevent 15:04:12
 2 or reduce invasion by free-moving rodents of 15:04:14
 3 premises with a few entry points, which says they 15:04:16
 4 can be repelled. So I mean, his conclusions have 15:04:18
 5 very little support behind them in here. 15:04:24
 6 Q. Okay. So you disagree with the author's 15:04:28
 7 conclusion that it's well established that such 15:04:30
 8 devices will not exterminate, kill or drive rodents 15:04:32
 9 out of a favorable habitat, is that correct? 15:04:36
 10 A. It's a lovely way to start a sentence if 15:04:36
 11 you want to bias somebody without having the data 15:04:40
 12 to support it. To say that everybody knows this is 15:04:42
 13 true is -- 15:04:48
 14 Q. Okay, thank you. You can set that 15:04:50
 15 aside, please. 15:04:52
 16 A. Okay. That everybody says it is true 15:04:52
 17 doesn't make it so. 15:05:02
 18 MR. KOPEL: I'll ask the Court Reporter to 15:05:08
 19 please mark as Exhibit 11, "Efficacy Test Protocols 15:05:10
 20 for Evaluation of Ultrasonic Rodent Repellent 15:05:12
 21 Devices." 15:05:16
 22 (WHEREUPON, a certain document was 15:05:16
 23 marked Whitford Deposition Exhibit
 24 No. 11, for identification, as of
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1 01/12/2018.)
 2 BY THE WITNESS. 15:12:42
 3 A. I don't know if you've looked at it, but 15:12:42
 4 it doesn't mention the ultrasonic frequencies or 15:12:44
 5 decibel levels of anything used at any point in 15:12:50
 6 there. 15:12:52
 7 BY MR. KOPEL: 15:12:54
 8 Q. So let's take this one step at a time, 15:12:54
 9 please. Have you had a chance to review the entire 15:12:56
 10 Exhibit 11? 15:13:02
 11 A. I have. 15:13:02
 12 Q. Okay. And I'll give you a complete 15:13:04
 13 opportunity to give me your thoughts on it; but 15:13:08
 14 taking a look at what you had written about this in 15:13:14
 15 your rebuttal report, having reviewed the Exhibit, 15:13:18
 16 does that change anything that you wrote or not? 15:13:22
 17 A. It does not because I commented that the 15:13:26
 18 spaces that they were testing were very -- much too 15:13:28
 19 large, 196 square meters for the grain bins, and 15:13:34
 20 the smaller buildings were smaller, but I don't 15:13:38
 21 have the information on what frequencies they were 15:13:42
 22 using, they don't specify the device's name, they 15:13:44
 23 don't specify the decibel levels of it. I don't 15:13:52
 24 know that it has any relevance to the Bell & Howell 15:13:54
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1 tests. 15:13:56	1 Q. And, actually while the Court Reporter 15:18:02
2 Q. Okay. So, first of all, you did see 15:14:02	2 is marking that, I see here that you had criticized 15:18:04
3 that there were smaller testing spaces? 15:14:06	3 the Shumake study that we just reviewed on the 15:18:08
4 A. I did. 15:14:08	4 basis of the size of the testing space, but you did 15:18:12
5 Q. Okay. Did you have anything to add in 15:14:52	5 see that there were smaller spaces tested as well? 15:18:16
6 the meantime on this Exhibit in terms of your 15:14:56	6 A. I did, but that wasn't apparent in the 15:18:20
7 thoughts on this test? 15:15:00	7 abstract that I had seen on it. 15:18:24
8 A. Well, they did two replications three 15:15:02	8 Q. Okay. 15:18:26
9 weeks apart. They don't specify how they 15:15:04	9 A. Which simply told me about 196 square 15:18:26
10 determined the rodent activity particularly. They 15:15:06	10 meters which is a tremendously large area and 15:18:30
11 were using areas with food already present which is 15:15:10	11 impossible to reach with ultrasound especially when 15:18:34
12 in direct contradiction to the way the 15:15:14	12 it's filled with grain. 15:18:36
13 Bell & Howell units are supposed to be operated. I 15:15:18	13 Q. And you mention here 175 square feet 15:18:42
14 don't see that there is enough information here to 15:15:22	14 regarding that. Would it be a problem to use an 15:18:46
15 compare these to the Bell & Howell tests in a 15:15:26	15 ultrasonic pest repeller for an area exceeding 15:18:54
16 residence. 15:15:40	16 175 square feet? 15:19:00
17 Q. Now, you mentioned that the replications 15:15:40	17 A. That's what the Bell & Howell used 15:19:04
18 were several weeks apart. Is that an issue in your 15:15:42	18 because that's what was stipulated by Diane 15:19:10
19 mind? 15:15:48	19 Feinstein as the proper size for a room to be used 15:19:16
20 A. Not at all. Two replications is better 15:15:48	20 in her deposition. Would it work in a larger than 15:19:18
21 than no replications, but it's still only two. 15:15:50	21 175 square feet is going to be determined by the 15:19:26
22 Q. Well, how many replications are 15:15:52	22 nature of the materials that make up the room, what 15:19:28
23 necessary? 15:15:54	23 kind of obstacles there are in the room, and the 15:19:30
24 A. Well, according to Dr. Porter, 10 is the 15:15:54	24 linearity of the structures. 15:19:34
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1 minimum, although he didn't provide any. 15:15:58	1 Q. When you say materials, can you please 15:19:38
2 Q. Would you agree that the number of 15:16:10	2 elaborate on that? 15:19:40
3 replications necessary is related to the number 15:16:16	3 A. Hard surfaced versus carpet for 15:19:40
4 of -- the sample size used in testing? 15:16:26	4 flooring, hard surface versus soft textured walls. 15:19:44
5 MR. OSTOJIC: Object to form. 15:16:28	5 Q. I see. So if there was a carpeted 15:19:46
6 BY MR. KOPPEL: 15:16:28	6 flooring, what would be the appropriate range for 15:19:52
7 Q. Sorry, I can rephrase that if you're 15:16:30	7 the devices? 15:19:58
8 confused. 15:16:32	8 MR. OSTOJIC: Object to form, incomplete 15:19:58
9 A. I'm not confused. I'm just thinking 15:16:34	9 hypothetical, but go ahead. 15:20:00
10 about it. Certainly within limits an increase in 15:16:36	10 BY THE WITNESS: 15:20:02
11 sample size helps, but of course we saw in the 15:16:42	11 A. I don't know the exact answer to that 15:20:02
12 Chinese test that just increasing the number of 15:16:48	12 because nobody has done the measurements, but we do 15:20:04
13 rats and mice screwed up the whole thing in 2016. 15:16:52	13 know that it attenuates the sound. It would be a 15:20:08
14 so sample size is not a be all and end all. 15:16:56	14 matter of the angle at which the sound waves meet 15:20:10
15 Replications of the same size is what's important. 15:17:04	15 the carpet would determine the degree to which it 15:20:14
16 Q. Okay. You can put to the side, please. 15:17:10	16 attenuated because a steeper angle will cause more 15:20:16
17 MR. KOPPEL: I'll ask the Court Reporter to 15:17:32	17 loss of sound and less reflection. 15:20:20
18 please mark as Exhibit 12 "Ultrasound as a 15:17:36	18 Q. A steeper angle, would that mean that 15:20:24
19 Deterrent to Rattus Norvegicus." 15:17:36	19 the unit was plugged at a higher level? 15:20:26
20 (WHEREUPON, a certain document was 15:17:36	20 A. And/or pointing down, yes. 15:20:30
21 marked Whitford Deposition Exhibit 15:17:36	21 Q. Okay. But assuming it was pointing 15:20:32
22 No. 12, for identification, as of 15:17:36	22 straight out because you're plugging it into a 15:20:34
23 01/12/2018.) 15:17:36	23 wall? 15:20:36
24 BY MR. KOPPEL: 15:18:02	24 A. Well, if you have it higher up and 15:20:38
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1	pointing straight out, then there is this area that	15:20:40	1	defense. It diminishes by the second row and more	15:28:26
2	it's not meeting for whatever the distance is out	15:20:44	2	by the third row, and by the time you reach the	15:28:30
3	until the sound broadens far enough --	15:20:46	3	eighth row, it's going to have a fraction of a few	15:28:32
4	Q. I understand.	15:20:50	4	decibels,	15:28:36
5	A. -- to make contact with the floor.	15:20:50	5	Q. I understand. Well, actually, so you saw	15:28:36
6	Q. I understand.	15:20:52	6	that the last row was measured at 59 decibels, do	15:28:40
7	A. So you're leaving an area unprotected.	15:20:52	7	you see that?	15:28:44
8	Q. Okay. Okay, thank you. Can you please	15:20:54	8	A. The last row in here?	15:28:44
9	take a look at this Lavoie and Gidhu Exhibit,	15:20:58	9	Q. Yes.	15:28:46
10	Exhibit 12 I just handed to you, and let me know	15:21:08	10	A. I don't see that as how physically	15:28:48
11	when you're ready, please?	15:21:10	11	possible with these units unless they were	15:28:52
12	A. Okay.	15:26:24	12	producing -- well, the top decibel level is only	15:28:54
13	Q. Have you had a complete opportunity to	15:26:36	13	111. Ultrasound should not be at that level 31	15:29:02
14	review Exhibit 12?	15:26:38	14	meters from the source.	15:29:08
15	A. Adequately.	15:26:42	15	Q. Okay.	15:29:08
16	Q. Okay.	15:26:42	16	A. There is one thing I can say. They're	15:29:10
17	A. More time would lend more, but there is	15:26:44	17	using three units at once, so the collective force	15:29:12
18	plenty there to discuss.	15:26:46	18	of the three is higher.	15:29:16
19	Q. Does your view of Exhibit 12 alter your	15:26:56	19	Q. I was going to ask you about that. So	15:29:20
20	comments on the study written in your rebuttal	15:27:02	20	I'm actually referencing page 25 here which I	15:29:22
21	report?	15:27:06	21	believe you're on, and I'm in the results position.	15:29:26
22	A. No, it does not.	15:27:06	22	The second sentence says, "The sound attenuated	15:29:28
23	Q. Okay. Why not?	15:27:08	23	from an average of 89 decibels at the row closest	15:29:32
24	A. Because the length of the room is	15:27:12	24	to the generators to an average of 59 decibels at	15:29:34
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1	31 meters and the effective range of these things	15:27:14	1	the last row 22.5 meters from the generators."	15:29:38
2	is less than 7 meters. You have three ultrasound	15:27:18	2	The next sentence reads, "In the	15:29:42
3	units at the farthest end of that, and they would	15:27:24	3	non-sound room, sound level readings of less than	15:29:44
4	reach on this diagram roughly to here (witness	15:27:30	4	50 decibels were recorded at each of the four	15:29:48
5	indicating), so you can't drive the things away	15:27:36	5	feeding stations." Do you see that?	15:29:50
6	from the rest of that with those three sound	15:27:38	6	A. I do.	15:29:52
7	repellers at the frequencies and decibel levels	15:27:40	7	Q. Okay. Would 59 decibels have been	15:29:52
8	they're at. This area is completely out of range.	15:27:46	8	sufficient to repel the animals in this study?	15:30:00
9	Q. So for completion of the record just	15:27:48	9	MR. OSTROM: Object, incomplete hypothetical,	15:30:08
10	because the Court Reporter can't see where you	15:27:52	10	but go ahead,	15:30:08
11	drew, can you count how many spaces back you just	15:27:54	11	BY THE WITNESS;	15:30:10
12	drew?	15:27:56	12	A. Decibels are measured on the logarithmic	15:30:10
13	A. Between the sixth and seventh margin	15:27:58	13	scale.	15:30:16
14	would represent between the sixth and seventh meter	15:28:04	14	Q. Okay. Can you please explain that?	15:30:16
15	which is 18 to 20 feet. The range of these things	15:28:08	15	A. A factor of 10 for every first place.	15:30:18
16	is 20 feet.	15:28:10	16	So 90 decibels, 100 decibels is ten times the	15:30:26
17	Q. Did you see here that they did measure	15:28:12	17	strength of 90 decibels, not 10 percent greater.	15:30:30
18	the decibel levels?	15:28:14	18	So 59, 69, 79, 89, 99, we're looking at 40 times	15:30:34
19	A. They did.	15:28:16	19	less volume than we're looking at with 98.	15:30:44
20	Q. Okay. So they saw at the first row the	15:28:16	20	99 decibels, and I doubt very strongly whether	15:30:50
21	decibel level was 89, you saw that?	15:28:20	21	that's adequate. It wasn't in Gould's studies,	15:30:52
22	A. Okay.	15:28:22	22	1984 Gould studies, even at short range it wasn't	15:30:54
23	Q. Okay. Is that an adequate amount?	15:28:22	23	adequate in Gould's studies.	15:31:00
24	A. It's adequate for that first row's	15:28:24	24	Q. Let's talk about the first row, right,	15:31:02
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1 because according to the results here, it seemed 15:31:04
 2 that after a period the rodents were still coming. 15:31:06
 3 to eat from the first row where it was 89 decibels. 15:31:12
 4 is that correct? 15:31:14
 5 A. I did not catch that line. Can you 15:31:16
 6 point me to it? 15:31:20
 7 Q. Well, the last -- the conclusion of the 15:32:10
 8 study here is, "Our studies did not demonstrate 15:32:14
 9 that either type of ultrasonic generator would be 15:32:18
 10 effective in expelling Norway rats from warehouses 15:32:20
 11 or preventing them from taking food even quite 15:32:24
 12 close to the sound sources." 15:32:26
 13 A. Are you back at the abstract because I 15:32:28
 14 don't see a conclusion on my paper? 15:32:30
 15 Q. It's the last sentence of the 15:32:32
 16 discussion. 15:32:34
 17 A. Oh, okay. Well, over the course of 15:32:34
 18 weeks, they would habituate. The question here is 15:32:40
 19 did the rats have an option for leaving the 15:32:52
 20 structure entirely or not. 15:32:54
 21 Q. Well, weren't they able to go to the 15:32:56
 22 non-sound zones? 15:32:58
 23 A. They did that for a considerable length 15:33:00
 24 of time. 15:33:02

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1 Q. However -- 15:33:04
 2 A. It implies that they would have left if 15:33:06
 3 they could have. 15:33:08
 4 Q. So do you believe that they became 15:33:10
 5 habituated to the sound while in the non-sound 15:33:12
 6 room? 15:33:14
 7 MR. OSTOJC: Object, incomplete hypothetical. 15:33:14
 8 Room, foundation, but go ahead. 15:33:16
 9 BY THE WITNESS: 15:33:18
 10 A. Exposure to the level of a sound which 15:33:18
 11 is not distressing to them does cause them to 15:33:20
 12 realize that it's not harmful to them over time and 15:33:24
 13 cause -- you know, promotes habituation. I don't 15:33:26
 14 see this as being important in terms of what 15:33:32
 15 happens in terms of Bell & Howell's smaller units 15:33:38
 16 in smaller spaces. 15:33:42
 17 BY MR. KOPEL: 15:33:44
 18 Q. Are you familiar with this journal? 15:33:44
 19 A. Journal of Stored Product Resources? 15:33:56
 20 would not be. I mean it's such a specific area 15:34:00
 21 that I mean I've read 45 years worth of Journal of 15:34:04
 22 Wildlife Management, Wildlife Management Bulletins 15:34:08
 23 and other things. I have not heard of this. 15:34:12
 24 This is something which would be known 15:34:14

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1 to people who store large amounts of grain and deal 15:34:16
 2 with shipping and purchasing of grain. It's not 15:34:20
 3 out there for the general reader, and most of 15:34:26
 4 us -- I don't think one biologist out of 100 will 15:34:30
 5 have ever heard of it. 15:34:34
 6 Q. I'm going to show you one more. 15:34:38
 7 MR. KOPEL: I'll ask the Court Reporter to 15:34:42
 8 please mark as Exhibit 13, "Sound as a Deterrent to 15:34:44
 9 Rats and Mice." 15:34:50
 10 (WHRREUPON, a certain document was 15:34:50
 11 marked Whitford Deposition Exhibit
 12 No. 13, for identification, as of
 13 01/12/2018.)
 14 BY THE WITNESS: 15:34:58
 15 A. Okay, this is the Journal of Wildlife 15:34:58
 16 Management, at least I recognize the source of 15:35:00
 17 them. 15:35:02
 18 BY MR. KOPEL: 15:35:02
 19 Q. Is it peer reviewed? 15:35:02
 20 A. Yes? I'm one of their reviewers. 15:35:04
 21 Q. Okay. 15:35:06
 22 A. Okay, 1967. 15:35:26
 23 Q. Take as long as you want to review it. 15:35:38
 24 Let me know when you're ready. 15:35:40

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1 A. Okay. As I've held all along, the 15:35:42
 2 equipment that they were using in this day and age 15:35:46
 3 was nothing like what we have since 1995, but the 15:35:48
 4 only tests they claim to have done were using 15:35:48
 5 frequencies from 200 to 1,000 cycles per second at 15:35:54
 6 100 decibels, that's not ultrasound. That's sonic 15:35:54
 7 sound. 15:35:56
 8 Q. So how much cycles per second is 15:36:08
 9 ultrasound? 15:36:10
 10 A. Above 20,000, from 20,000 to 45,000 15:36:12
 11 would be. 19 is audible. 15:36:16
 12 Q. Have you had a chance to read this over? 15:36:24
 13 A. I have not. Since we're not seeing 15:36:28
 14 anything going in the sound ranges of the 15:36:38
 15 Bell & Howell equipment at decibel levels to the 15:36:42
 16 Bell & Howell equipment, again I can't see how 15:36:50
 17 this does anything to address Bell & Howell's 15:36:50
 18 ultrasound. 15:36:54
 19 They're more concerned with causing 15:36:58
 20 lethal and non-lethal seizures. 15:37:30
 21 Q. Okay. 15:40:04
 22 MR. OSTOJC: If we're at a good point, do you 15:40:08
 23 want to just take a two-minute bathroom break? 15:40:12
 24 MR. KOPEL: That's fine. 15:40:14

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1 MR. OSTOJIC: We've gone an hour and a half 15:40:14
 2 since the one break. 15:40:16
 3 BY MR. KOPEL: 15:40:16
 4 Q. One last question. 15:40:16
 5 A. Certainly. 15:40:16
 6 Q. I assume you've seen the Koehler, et al. 15:40:18
 7 article? 15:40:20
 8 A. Uh-huh. 15:40:20
 9 Q. Okay. 15:40:22
 10 A. And that, as I said, is a recitation of 15:40:22
 11 other people's opinions without -- oh, wait, let me 15:40:26
 12 double-check that. 15:40:30
 13 Yeah, quoting the Koehler study, and 15:40:32
 14 they were doing -- they were writing based on a 15:40:40
 15 review of the published studies that we've already 15:40:42
 16 discussed, so all they're doing is saying, well, it 15:40:44
 17 didn't work in this 1960 or this 1970 or this 1980 15:40:48
 18 study, and so our opinion is it still doesn't work. 15:40:52
 19 we haven't tested it ourselves. That's what a 15:40:56
 20 review study does. 15:40:58
 21 MR. KOPEL: Okay. Let's take a break, please. 15:41:02
 22 THE VIDEOGRAPHER: We are off the record at 15:41:06
 23 3:34 p.m. 15:41:06
 24

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1 (WHILEUPON, a short break was had.) 15:52:28
 2 THE VIDEOGRAPHER: We're back on record at 15:52:28
 3 3:46 p.m. 15:52:32
 4 BY MR. KOPEL: 15:52:32
 5 Q. Dr. Whitford, I know we just used a 15:52:36
 6 whole bunch of studies as Exhibits. You can put 15:52:38
 7 those to the side if that's helpful. 15:52:42
 8 Dr. Whitford, you cited in your report 15:53:04
 9 three tests that Bell & Howell conducted on the 15:53:06
 10 ultrasonic pest repellents as it pertained to 15:53:12
 11 rodents, one of them in 2011, one of them in 2014, 15:53:16
 12 and one of them in 2016, correct? 15:53:20
 13 A. Intertek did the studies for 15:53:22
 14 Bell & Howell. 15:53:26
 15 Q. Was it just Intertek? 15:53:30
 16 A. And Qmann? 15:53:32
 17 MR. OSTOJIC: If you need to reference your 15:53:34
 18 report, but answer his question. I don't think 15:53:34
 19 he's asking you for the names. 15:53:36
 20 BY MR. KOPEL: 15:53:36
 21 Q. Don't worry, I'll give you the reports. 15:53:38
 22 I'm not testing you on the names. 15:53:40
 23 Have you looked at any other tests of 15:53:46
 24 the Bell & Howell devices aside from those three? 15:53:48

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1 A. Porter's 15:53:52
 2 Q. Okay. 15:53:52
 3 A. The Modesto apartments. 15:53:54
 4 Q. Okay. Any others? 15:53:54
 5 A. I don't know of any others that were done 15:53:56
 6 specifically with the Bell & Howell repellents. 15:53:58
 7 Wait, there was Qmann which was a six-room test 15:54:02
 8 which is a catastrophic mistake in design. 15:54:06
 9 Q. Okay. Did you see one Qmann test, or 15:54:10
 10 did you see two? 15:54:14
 11 A. Two, insects and mice. The mixing of 15:54:14
 12 things in a six-room chambers, the very small 15:54:18
 13 number of animals used, it just -- it didn't have 15:54:26
 14 adequate evidence to determine anything. 15:54:28
 15 Q. So would you say, based on the factors 15:54:34
 16 you identified, that the results of those tests are 15:54:38
 17 unreliable? 15:54:42
 18 MR. OSTOJIC: Object to form, foundation. Are 15:54:44
 19 we referring to Qmann? 15:54:46
 20 BY MR. KOPEL: 15:54:50
 21 Q. Yes, thank you, the two Qmann reports. 15:54:50
 22 A. The two Qmann reports and I would throw 15:54:52
 23 in the 2016 Chinese test which throw double mistakes 15:54:56
 24 of rats in the same housing and left us testing the 15:55:00

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1 effects of overcrowding of rats rather than the 15:55:02
 2 effects of the repellents. 15:55:06
 3 You have to go back to Calhoun, H. 15:55:08
 4 Calhoun's 1965 classic paper on overcrowding of 15:55:12
 5 rats. You find that and you find that any time you 15:55:14
 6 exceed one rat per three square feet, you'll have 15:55:18
 7 them killing each other, you'll have mayhem. The 15:55:20
 8 repellents would not be what you're measuring when 15:55:26
 9 you put 20 rats into 32 square feet. 15:55:28
 10 Q. And by the way, thank you for citing 15:55:32
 11 Calhoun because I learned a lot from reading that 15:55:34
 12 article. So with regards to the two Qmann reports 15:55:36
 13 and the 2016 report -- and that was done by 15:55:42
 14 Intertek, I believe? 15:55:50
 15 A. Yeah, those were badly designed. 15:55:52
 16 Q. And as a result, would you say that the 15:55:54
 17 data produced by them is unreliable? 15:55:56
 18 A. Absolutely. 15:55:58
 19 Q. Now, I think you said one rat per three 15:56:10
 20 square feet, is that what you said? 15:56:16
 21 A. Max. 15:56:18
 22 Q. That's the maximum? 15:56:18
 23 A. The maximum density before you have 15:56:18
 24 problems. 15:56:22

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1	Q. Before there is a problem. And what	15:56:22	1	the repeller was turned off, that there was even	15:59:24
2	about mice?	15:56:26	2	distribution --	15:59:30
3	A. I don't have the actual figure for that.	15:56:28	3	A. Right.	15:59:32
4	but the same pattern holds, they're just not as	15:56:30	4	Q. -- in those two tests, and that that	15:59:34
5	vicious, they're not as likely to kill each other.	15:56:34	5	indicated that the test was a fair test, is that	15:59:36
6	But still there is too much interaction, they're	15:56:38	6	accurate?	15:59:38
7	too crowded, they're constantly bumping into each	15:56:42	7	A. That's the basic concept of a control	15:59:38
8	other. That brings on aggression, stress.	15:56:46	8	situation, something that we didn't have with	15:59:42
9	The first tests, the 2011 and 2014	15:56:50	9	Potter. You have to put them in, and if they don't	15:59:46
10	tests, the ten rats and ten mice had enough space	15:56:54	10	equalize, you have to assume that some factor that	15:59:50
11	that you didn't see signs of any adverse agonistic	15:56:58	11	you're not recognizing is causing them to	15:59:52
12	behaviors between them.	15:57:02	12	concentrate in one place, not the other.	15:59:54
13	Q. Okay. Because I actually wanted to ask	15:57:08	13	But since all the animals were	15:59:58
14	you how you know the 2016 was too crowded but the	15:57:10	14	introduced at once, allowed to roam freely through	16:00:00
15	other two weren't, and perhaps it would be helpful	15:57:14	15	the pretest so the scent was equal throughout,	16:00:02
16	if I showed you the 2016 report.	15:57:18	16	droppings were equal throughout, everything about	16:00:06
17	And while I look for it, do you mind	15:57:22	17	those two chambers is equal except when you turn on	16:00:08
18	explaining how do you know that 2016 was too many	15:57:24	18	the ultrasound, that's a valid test.	16:00:10
19	but 2011 and 2014 was not?	15:57:26	19	Q. Okay. So when the equal numbers of rats	16:00:14
20	A. Because 2011 and 2014 the design test	15:57:30	20	and mice during the --	16:00:20
21	had the same units, the same Plexiglas units that	15:57:36	21	A. Pretest.	16:00:24
22	were used in the 2016, but they had half the number	15:57:42	22	Q. That actually wasn't the word I was	16:00:24
23	of mice and rats of 2016. In those cases, the	15:57:46	23	looking for.	16:00:26
24	pretest showed a uniform distribution of rats or	15:57:52	24	MR. OSTOJC: Let him ask the question. Just	16:00:26
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1	mice in both chambers before you started the sound	15:57:56	1	well, don't anticipate.	16:00:30
2	repeller. The chambers were exactly identical to	15:58:00	2	BY MR. KOPLI:	16:00:30
3	one another, there was no disparity of where there	15:58:02	3	Q. No, that's fine. So the fact that there	16:00:30
4	was food and where there wasn't, no disparity of	15:58:06	4	were equal numbers of mice and rats on the repeller	16:00:34
5	where there was housing, where there wasn't.	15:58:08	5	side as there were on the non-repeller side, in	16:00:40
6	Everything was exactly as it should be to have a	15:58:10	6	absence of the ultrasonic signals, that indicates	16:00:48
7	fair test where you're testing only what does the	15:58:14	7	that the test was fair in your opinion, is that	16:00:54
8	sound of the ultrasound pest repeller do to change	15:58:18	8	conced?	16:00:56
9	things.	15:58:22	9	A. It indicates that you have valid	16:00:56
10	in both cases when they turned on the	15:58:24	10	controls, the two are exactly alike. It also	16:00:58
11	ultrasound unit, all the rats and all the mice	15:58:26	11	indicates that having the physical body of the	16:01:00
12	moved to the far chamber away from the repeller.	15:58:30	12	repeller in the left hand, the A Chamber, didn't	16:01:06
13	That shows that the repeller was effective at	15:58:36	13	disturb the rats at all. It's only when you turned	16:01:10
14	moving the rats, and they stayed there for a week	15:58:38	14	it on. It wasn't a difference of something in the	16:01:14
15	in the first test, so they weren't habituating.	15:58:42	15	physical environment between them.	16:01:16
16	That was a good -- it was a simplistic test, some	15:58:50	16	In many cases, you would think that if	16:01:22
17	people would say, it didn't have repetition till	15:58:52	17	you have a new object in one room and not in the	16:01:24
18	the 2014 test, and yet to some degree it was an	15:58:56	18	other, that animals would be suspicious of it.	16:01:30
19	extremely elegant test because it tested only the	15:59:00	19	Q. Of the new object and that would be	16:01:32
20	thing you wanted to find out, what does the sound	15:59:02	20	cause for avoiding it, is that right?	16:01:34
21	of a UPR at that frequency do to mice or rats in a	15:59:06	21	A. Right, but the balance among them didn't	16:01:36
22	double-chamber test. It showed efficacy without	15:59:12	22	make any different to them.	16:01:40
23	question in both years.	15:59:20	23	Q. Would you agree with me that if you had	16:01:42
24	Q. Now, I think you mentioned that, when	15:59:22	24	a pest repeller that emitted no sound but that the	16:01:44
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1 presence of that pest repeller caused a pest to be 16:01:52	1 A. Yes, I have. 16:04:30
2 driven out or repelled, then that would be an 16:01:58	2 Q. What is it? 16:04:32
3 effective pest repeller, right, even if it didn't 16:02:04	3 A. It's the 2016 test reports. 16:04:32
4 emit ultrasonic signals? 16:02:06	4 Q. Now, I know that you had stated you're 16:04:36
5 MR. OSTOJIC: Objection to form, foundation, 16:02:08	5 not relying on this report in reaching your 16:04:40
6 incomplete hypothetical. 16:02:10	6 conclusions, so I don't want to delay -- I don't 16:04:42
7 BY MR. KOPEL: 16:02:10	7 want to spend too much time on here, but I was 16:04:46
8 Q. I can rephrase it. 16:02:10	8 hoping you could please turn to the page bearing 16:04:50
9 A. I'm confused on it. If you have an 16:02:12	9 the Bates number Feuerstein 90. Do you know what 16:04:54
10 ultrasound pest repeller in there and it's not 16:02:12	10 Bates number is? That's the marking on the bottom 16:04:58
11 turned on, hopefully in this test that you're 16:02:18	11 right corner of each page. 16:05:00
12 setting up, it shouldn't cause any avoidance of it. 16:02:22	12 A. Okay, I'm on that page. 16:05:02
13 When you turn it on, if they move away 16:02:28	13 Q. Do you see a chart daily testing record? 16:05:04
14 from you, that shows it's effective. Having it 16:02:30	14 A. Yes. 16:05:08
15 there and having them move away would make you 16:02:32	15 Q. And do you see the second to bottom row 16:05:08
16 question. Having it there without on would make 16:02:34	16 is rats/mice who are suffering physical injury? 16:05:10
17 your question whether it was the sound or the 16:02:40	17 A. I do. 16:05:18
18 presence of that, 16:02:42	18 Q. And do you see it says no all across the 16:05:22
19 Q. I think I can clarify. Do you agree 16:02:42	19 chart? 16:05:26
20 that there would be a difference in terms of if 16:02:44	20 A. I do. 16:05:26
21 your objective was to measure the efficacy of 16:02:48	21 Q. Would that surprise you given the number 16:05:30
22 ultrasound being emitted from a repeller versus 16:02:52	22 of rats and mice that were being used in this 16:05:32
23 measuring the efficacy of the repeller all 16:02:58	23 experiment? 16:05:36
24 together? 16:03:00	24 A. As long as the rats or mice can get 16:05:38
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1 MR. OSTOJIC: Object to form, foundation. 16:03:00	1 enough distance between themselves, they wouldn't 16:05:42
2 incomplete hypothetical, but go ahead. 16:03:02	2 necessarily do physical harm to each other. But 16:05:48
3 BY THE WITNESS: 16:03:08	3 the fact that they dispersed back into the area 16:05:50
4 A. Under those circumstances, you'd have to 16:03:08	4 where the repeller was in direct contradiction to 16:05:56
5 use a repeller of varying frequencies to find out 16:03:10	5 what the 2011 and 2014 tests showed means that 16:06:00
6 if they're going to get a response. If it's on and 16:03:18	6 there was enough population pressure to interfere 16:06:04
7 it's not ultrasound, it may have a different 16:03:22	7 with the valid conclusions from this study. The 16:06:06
8 effect, or am I not understanding your question as 16:03:24	8 only change we've got is the excess number of 16:06:10
9 yet? 16:03:28	9 animals comparing those studies. 16:06:14
10 BY MR. KOPEL: 16:03:30	10 Q. Okay. So in terms of reaching your 16:06:16
11 Q. I think not. Maybe I'll give it one 16:03:30	11 conclusion that there were too many pests used 16:06:18
12 more try, okay. 16:03:32	12 here, you've identified that there were -- there 16:06:22
13 I'll come back to it. We'll see if we 16:03:46	13 are records of the pests going into the repeller 16:06:22
14 can get back to it later. 16:03:48	14 side, is that correct? 16:06:32
15 MR. KOPEL: Okay, we'll mark this test as 16:03:52	15 A. Yes. 16:06:32
16 Exhibit 14. 16:03:58	16 Q. Is there any other basis for that 16:06:32
17 (WHEREUPON, a certain document was 16:03:58	17 conclusion? 16:06:34
18 marked Whitford Deposition Exhibit	18 A. Just the knowledge of the impact of 16:06:36
19 No. 14, for identification, as of	19 overcrowding in terms of physiological responses, 16:06:38
20 01/12/2018.)	20 stress activities. There would have been more 16:06:42
21 BY MR. KOPEL:	21 interaction between the animals, more 16:06:46
22 Q. Dr. Whitford, do you have Exhibit 14? 16:04:26	22 just -- not necessarily doing bodily harm, but 16:06:48
23 A. I do. 16:04:28	23 nipping, running, getting away from. They're far 16:06:52
24 Q. Have you seen it before? 16:04:28	24 more active. That's part of the effect of being in 16:06:56
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1 a crowd. 16:06:58	1 the bottom here it's been reviewed by Leo Lin and 16:10:44
2 Q. If they were nipping, wouldn't you see 16:07:00	2 Sam Lin? 16:10:48
3 evidence of physical injury? 16:07:02	3 A. Yes. 16:10:48
4 A. They don't always draw blood. A lot of 16:07:02	4 Q. Okay. Do you know who either of them 16:10:48
5 it is just saying get away from me. And the least 16:07:06	5 are? 16:10:50
6 dominant mice and rats are going to go back to the 16:07:12	6 A. I do not. 16:10:50
7 side where they're not being pushed by the dominant 16:07:16	7 Q. Do you know what their qualifications 16:10:52
8 ones. 16:07:16	8 are? 16:10:54
9 Q. I'm going to hand the witness a document 16:07:54	9 A. I do not. 16:10:54
10 which was previously marked as Exhibit 13 in this 16:07:56	10 Q. Does that matter? 16:10:56
11 case. Now, Exhibit 13 has many tests in it, and 16:08:00	11 A. I can't change what their qualifications 16:11:02
12 I'm hoping, Dr. Whitford, that you can please flip 16:08:16	12 are. All I can do is guess that they had some 16:11:06
13 to the portion which contains the Intertek test 16:08:20	13 experience in designing a test because the nature 16:11:10
14 dated July 7th of 2014. 16:08:24	14 of the test was a valid balance test, but I don't 16:11:14
15 A. Do we have a page number for that? 16:08:54	15 know their experience. 16:11:18
16 MR. WEISS: It looks like 43. Do you want 16:09:08	16 Q. Okay. Is it important for the 16:11:22
17 this copy? 16:09:10	17 individuals conducting the test to be qualified? 16:11:26
18 MR. KOPEL: Yeah, I'm sorry, I've got it in a 16:09:10	18 A. I would think so. 16:11:30
19 book. Thank you, Mike. Was it page 43? 16:09:14	19 Q. Are you familiar with Intertek? 16:11:32
20 MR. WEISS: I think it's 43. 16:09:16	20 A. I am not. 16:11:34
21 BY MR. KOPEL: 16:09:16	21 Q. Did you look up which style of 16:11:38
22 Q. Mike was correct, page 43, so it's Bates 16:09:18	22 Bell & Howell ultrasonic test repeller was used for 16:11:42
23 number BIII, LLC 43. 16:09:20	23 this test? 16:11:48
24 A. Okay. 16:09:24	24 A. It's there on the page. It's a fairly 16:11:50
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1 Q. And have you seen this test before? 16:09:32	1 standard one. 16:11:54
2 A. Yes, I have. 16:09:36	2 Q. Okay. So did you see if this one has 16:11:56
3 Q. And this is the 2014 test that you 16:09:38	3 sweeping frequencies? 16:11:58
4 referenced in your report? 16:09:40	4 A. I don't know whether it has sweeping or 16:12:02
5 A. This one is the spiders, reaches and 16:09:42	5 broad spectrum. 16:12:06
6 ants is what I'm seeing. 16:09:46	6 Q. Does it matter? 16:12:08
7 Q. Then it's the wrong page. 16:09:48	7 A. As we discussed before, apparently it 16:12:12
8 Okay, I think it's on page 55. Please 16:10:10	8 didn't matter for spiders or mice in my farm house. 16:12:14
9 try that one instead. 16:10:14	9 so it probably doesn't matter in this case if the 16:12:16
10 MR. WEISS: Sorry about that. 16:10:14	10 frequency is right. 16:12:20
11 MR. KOPEL: That's fine. I was going to make 16:10:16	11 Q. So regardless of whether there was 16:12:20
12 new exhibits, but I figured why keep making new 16:10:20	12 sweeping or pulsating or static, you feel 16:12:22
13 exhibits of the same thing. 16:10:22	13 comfortable drawing conclusions based on this model 16:12:26
14 BY THE WITNESS 16:10:24	14 to all the other Bell & Howell models, is that 16:12:30
15 A. Okay. 16:10:24	15 correct? 16:12:32
16 BY MR. KOPEL: 16:10:26	16 A. Yes. As long as the frequencies are the 16:12:32
17 Q. Are you at page 55? 16:10:26	17 same and the decibel levels are the same, I see no 16:12:34
18 A. I am. 16:10:26	18 difference, and that was pretty much Dr. Mankin's 16:12:40
19 Q. Okay. Is this the report you were 16:10:28	19 conclusion when he tested the various ones. 16:12:44
20 referencing? Is this the test you were referencing 16:10:30	20 Q. What species of mice was used in this 16:12:46
21 in your report? 16:10:32	21 test? 16:12:50
22 A. One of the two, yes. There is 2010 and 16:10:32	22 A. They weren't stated. The rats were 16:12:50
23 2014 tests. 16:10:36	23 black rats. The pictures show a mouse that could 16:12:54
24 Q. Right, okay. Let's see, do you see at 16:10:38	24 be light gray, or it could have been a white lab 16:13:00
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1 rat. Dr. Porter seems to think it might have been	16:13:02	1 Feuerstein's that they used wild caught black rats.	16:15:58
2 a white lab rat or mouse, but there is no way to	16:13:06	2 but I can't swear to that. I haven't read that in	16:16:02
3 judge that from the picture. The light from a	16:13:10	3 three months.	16:16:04
4 flash would make a gray mouse appear white.	16:13:16	4 Q. Due to the fact that putting wild caught	16:16:10
5 Q. Is it relevant to know what species the	16:13:18	5 pests into an acrylic chamber causes them to be in	16:16:18
6 pests tested were?	16:13:22	6 an unfamiliar environment, could that influence	16:16:24
7 A. Only to a modest extent. I mean the	16:13:24	7 their movement?	16:16:26
8 basic structure of mice and the hearing range, the	16:13:30	8 MR. OSTOJIC: Object to form. Go ahead.	16:16:30
9 frequencies that they can perceive is pretty	16:13:34	9 BY THE WITNESS:	16:16:32
10 consistent because of their body size, and the	16:13:38	10 A. Their movements were equal between both	16:16:32
11 sounds they produce and can hear and the sounds	16:13:42	11 sides of the chamber. There is nothing else there	16:16:34
12 their offspring produced to communicate with them,	16:13:46	12 to influence their movements until you turn the	16:16:38
13 the same holds for rats. Until you get at least a	16:13:48	13 repeller on, and then they all moved away. You're	16:16:40
14 50 percent variation in body size, you wouldn't	16:13:52	14 testing only one thing really in this test because	16:16:44
15 expect to see much of a change in the physiology of	16:13:56	15 you didn't put any confounding variables in there.	16:16:48
16 the animals.	16:13:58	16 BY MR. KOPEL:	16:16:50
17 Q. And is that with the exception of white	16:13:58	17 Q. Okay. So would you agree that -- is it	16:16:50
18 lab mice which we discussed earlier?	16:14:00	18 your opinion that although there may be various	16:16:54
19 A. White lab mice, because of their long	16:14:02	19 questions that can be asked, the fact that you	16:17:02
20 periods in captivity and inbreeding and so forth,	16:14:08	20 witnessed even distribution when the repeller was	16:17:04
21 might have stayed a bit from the sound realms, but	16:14:14	21 off indicated that those questions are invalid, is	16:17:10
22 I don't know anything that says that they have.	16:14:18	22 that it?	16:17:14
23 I've seen no data to that effect.	16:14:20	23 A. More or less, yes.	16:17:14
24 Q. Do black rats live in the United States?	16:14:24	24 Q. Okay. Can you please turn to the page	16:17:16
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1 A. No, black rats are Chinese.	16:14:28	1 with the Bates number 25697	16:17:22
2 Q. Do you think it would have been more	16:14:34	2 A. 25697	16:17:24
3 appropriate for them to test on a species that's	16:14:34	3 MR. OSTOJIC: Is it in this document?	16:17:28
4 common in the United States?	16:14:38	4 BY MR. KOPEL:	16:17:28
5 A. Well, let's see, choose from any of the	16:14:42	5 Q. Oh, I'm sorry, I'm in -- this document	16:17:32
6 7,000 or 8,000 species rats in the world, is one	16:14:44	6 was produced several times, and that's why, so	16:17:34
7 better than the other to choose?	16:14:48	7 that's the source of the confusion. I'm on	16:17:38
8 Q. Well, I asked you the question.	16:14:52	8 page 59. Are you at page 59?	16:17:50
9 A. They were conducting tests in China.	16:14:58	9 A. I am.	16:17:56
10 It's what they had access to at the time. Without	16:15:02	10 Q. And what does this page show?	16:18:02
11 importing rats from somewhere else, starting with	16:15:08	11 A. It shows the number of rats in Chamber A	16:18:04
12 the wild black rat seems to make more sense, but I	16:15:10	12 versus Chamber B across the timeframe of the seven	16:18:08
13 don't think it makes much difference.	16:15:20	13 days of the testing and the preliminary and post	16:18:12
14 Q. Have you seen any evidence of that?	16:15:22	14 testing periods.	16:18:14
15 A. The physiology of rats around the world	16:15:26	15 Q. Now, is the distribution of rats during	16:18:18
16 is pretty much the same for hearing ranges and so	16:15:28	16 the post testing period relevant to your analysis?	16:18:24
17 forth.	16:15:32	17 A. I can't say that it is because we've	16:18:36
18 Q. Were the pests that were used, were they	16:15:32	18 taken away the test effect, the thing that we're	16:18:38
19 wild, or were they -- what's the opposite of wild,	16:15:42	19 testing for, the sound.	16:18:42
20 I'm sorry, captive?	16:15:44	20 Q. What would have happened had -- what	16:18:50
21 A. Domestic.	16:15:46	21 would the distribution of rats have been if we had	16:18:58
22 Q. Do you know if they were wild or	16:15:48	22 the repellers turned off or no repellers for seven	16:19:06
23 domestic?	16:15:50	23 days?	16:19:08
24 A. I believe that I saw in Diane	16:15:52	24 A. You mean before testing them to begin	16:19:14
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1 with as in a pretest? 16:19:18
 2 Q. Yes, correct, okay. 16:19:18
 3 A. We're seeing more or less uniform 16:19:22
 4 distribution in the pretest. If we never turn that 16:19:24
 5 on, we expect them to stay at that. 16:19:28
 6 Q. But do you know what would have occurred 16:19:30
 7 if we had a control period that was the same length 16:19:32
 8 as the actual test? 16:19:36
 9 A. I can't tell you that without seeing the 16:19:40
 10 data, but the probabilities are very strong that 16:19:42
 11 there is nothing there to make them move from one 16:19:48
 12 side to the other except the presence of food and 16:19:50
 13 the rats, and those are -- food is equal in both 16:19:54
 14 sides in this test, water is equal in both sides. 16:19:56
 15 There is no harborage in these, so they had 16:20:00
 16 distributed more or less at random and equally, so 16:20:04
 17 it would be pure speculation to see what happens. 16:20:12
 18 When they turn on the lights the first 16:20:14
 19 day of the test, we see what happens, they vanish 16:20:16
 20 over the course of three days and all disappear, 16:20:20
 21 all move from right -- or from side A to side B. 16:20:26
 22 Q. Well, we see that distributions differed 16:20:30
 23 between day 1, day 2, day 3, et cetera, correct? 16:20:36
 24 A. Uh-huh. 16:20:38

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1 Q. But you don't know how distributions 16:20:38
 2 would have occurred after day 2 if there were a 16:20:42
 3 fulsome control period here, do you? 16:20:46
 4 MR. OSTOJC: Object to form. I'm sorry, what 16:20:48
 5 did you say, a fulsome? 16:20:50
 6 BY MR. KOPEL: 16:20:50
 7 Q. Yes. 16:20:52
 8 A. I don't know what you mean by that. 16:20:52
 9 Q. Sure. So is it your opinion that the 16:20:54
 10 preliminary testing counted as a control for this 16:20:58
 11 study? 16:21:00
 12 A. Yes. 16:21:02
 13 Q. Okay. But the control period was 16:21:02
 14 significantly shorter than the treatment period, is 16:21:04
 15 that correct? 16:21:08
 16 A. It quite often is. 16:21:08
 17 Q. What do you mean by that? 16:21:10
 18 A. Dr. Potter's tests went for a week, and 16:21:12
 19 that, unfortunately, tremendously biased his, a 16:21:16
 20 week of pretest versus two weeks of tests because 16:21:20
 21 of the imbalance of location of the animals in his 16:21:24
 22 pretest. 16:21:26
 23 Q. Dr. Potter used untreated apartments as 16:21:26
 24 well, correct? 16:21:30

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1 A. Yeah. 16:21:30
 2 Q. Okay. So those were his controls, 16:21:30
 3 right? 16:21:32
 4 A. Not hardly. But in here, if you turn 16:21:34
 5 the sound on, you see an effect. If you don't turn 16:21:46
 6 the sound on, you don't expect to see things all go 16:21:50
 7 over in one room. I mean they're not pairs 16:21:52
 8 animals, they don't have cheese being delivered. 16:21:52
 9 Q. Why did you decide to see the effects in 16:21:54
 10 the Transonic protesting for an entire year without 16:22:00
 11 the unit on as opposed to two days? Why wouldn't 16:22:02
 12 you base conclusions on two days with the unit 16:22:06
 13 turned off? 16:22:10
 14 A. Because that's not valid. 16:22:10
 15 Q. Why not? 16:22:12
 16 A. Because I would be comparing it to a 16:22:12
 17 full year on. 16:22:16
 18 Q. Okay. So do you agree that the 16:22:18
 19 comparison of the time off and the time on should 16:22:20
 20 have some relationship in terms of length? 16:22:24
 21 A. This is a totally different test. In my 16:22:26
 22 case, you have to recognize the seasonality and 16:22:30
 23 annual variation of mouse populations in the wild. 16:22:34
 24 They come in not equally throughout the year. They 16:22:38

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1 come in during the autumn, and they come in in 16:22:40
 2 higher numbers if there are higher numbers out in 16:22:42
 3 the wild because of good breeding conditions during 16:22:46
 4 the summer and early fall. I had to go long term 16:22:48
 5 for both of those so what I was testing was equal. 16:22:52
 6 In this case, you've put mice and rats 16:22:56
 7 into the chambers. They're not coming in from 16:23:00
 8 someplace else. Seasonality, annual variation. 16:23:04
 9 wild populations makes no difference to the study. 16:23:08
 10 Does that make sense? 16:23:10
 11 I had to be in a position to say, yeah. 16:23:12
 12 I've compared exactly the same times of the year in 16:23:16
 13 each phase of my studies or you could say but mice 16:23:20
 14 are more likely to come in in spring than the fall 16:23:24
 15 if you only test one. 16:23:28
 16 Q. You mentioned that you've worked 16:23:30
 17 reviewing publications for peer-reviewed 16:23:32
 18 publications, is that correct? 16:23:34
 19 A. Yes. It's volunteer work. I don't get 16:23:36
 20 paid for it. 16:23:40
 21 Q. I shouldn't have said work. Have you 16:23:40
 22 ever approved a peer-reviewed publication, a study, 16:23:50
 23 in which the control period was less than a third 16:23:54
 24 of the treatment period? 16:23:58

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1 A. Very little of what I review actually 16:24:04	1 BY MR. KOPEL: 16:27:24
2 deals with a control period versus a test period 16:24:08	2 Q. Okay. So if you took a coin and flipped 16:27:24
3 because most of what I review has to do with field 16:24:12	3 it ten times, wouldn't you agree that it's possible 16:27:26
4 biology and studies that are done outside of a 16:24:14	4 to consistently get heads if you're only doing it 16:27:30
5 captive environment. Those tests in psychology and 16:24:18	5 one round or two rounds? 16:27:34
6 animal behavior are reviewed by people whose 16:24:24	6 MR. OSTOJIC: Object to form, foundation, 16:27:36
7 specialty is controlled environment testing. 16:24:28	7 incomplete hypothetical, but go ahead. 16:27:36
8 Q. Have you ever seen any peer-reviewed 16:24:30	8 BY THE WITNESS: 16:27:38
9 publication in which there was a study that the 16:24:32	9 A. You've been watching Rosencrantz and 16:27:38
10 control period was less than a third of the 16:24:40	10 Guildenstern Are Dead too often, that one caused 16:27:44
11 treatment period? 16:24:40	11 them flipping the coin 100 times and always coming 16:27:44
12 A. I could tell you that the psychologists 16:24:42	12 up heads. But, yes, there is probability of that. 16:27:46
13 at Capital University when they were running study 16:24:46	13 but there is not a probability that over the course 16:27:48
14 tests would always have a short control period 16:24:48	14 of seven days of having the unit on, you would have 16:27:50
15 followed by a much longer study period. The 16:24:52	15 zero in the A Chamber and eight or ten in the B 16:27:54
16 control is only the setup, the proof that the two 16:24:56	16 Chamber every one of those days. That 16:28:00
17 sides don't differ, that you're starting with a 16:25:00	17 statistically goes up to being highly improbable. 16:28:02
18 balanced playing field, in other words, but the 16:25:06	18 BY MR. KOPEL: 16:28:04
19 studies run on longer to see if there is change 16:25:10	19 Q. That would be highly improbable with or 16:28:04
20 over time. So this is not atypical whatsoever. 16:25:22	20 without the pretest period, wouldn't you agree with 16:28:10
21 Q. If you observed the activity of rats 16:25:38	21 that? 16:28:12
22 over the course of one day, would that distribution 16:25:42	22 MR. OSTOJIC: Object to form. 16:28:14
23 that occurred on that one day, would that be 16:25:52	23 BY THE WITNESS: 16:28:16
24 sufficient to establish a baseline for you? 16:25:56	24 A. It would, but the pretest is there to 16:28:16
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1 A. Not from a scientific standpoint, no. 16:26:02	1 solely give you a sense that the conditions were 16:28:20
2 Q. So one day -- how about two days, is 16:26:06	2 balanced when you started the test, no difference 16:28:22
3 that sufficient? 16:26:10	3 between Chamber A and Chamber B in their 16:28:26
4 A. If we're looking at a pretest condition 16:26:14	4 attractiveness or repellency of the rats. They're 16:28:30
5 and there is no change over those two days, I would 16:26:18	5 not selecting one over the other. That is the 16:28:34
6 probably say that I'd like to see a few more, but 16:26:22	6 condition, that is the function of a control. 16:28:38
7 that doesn't matter. The tests are consistently 16:26:26	7 If you want to go to the worst example, 16:28:42
8 very short term, even in the things that you've 16:26:30	8 you go to Potter's apartment tests where they put 16:28:44
9 presented to me, some of those peer-reviewed things 16:26:32	9 all the rats into the front room before the pretest 16:28:46
10 had very short pretests. 16:26:36	10 period of a week knowing that those rats and mice 16:28:50
11 It doesn't change the test results. The 16:26:42	11 would be -- or the mice in that study would be 16:28:56
12 test results in this are unequivocally showing 16:26:44	12 leaving their odor, their pheromones, their urine, 16:28:58
13 efficacy at moving rats from Chamber A to Chamber 16:26:50	13 their feces there for that week, and Dr. Potter 16:29:04
14 B, period, the end, no way to disparage or diminish 16:26:54	14 admits that that is a major attractant for mice to 16:29:08
15 that. For that week, they moved everything out. 16:27:02	15 stay in the area, so he's already biased it. 16:29:12
16 Q. Now, we only have a sample size of ten 16:27:06	16 When he turned them loose, they tended 16:29:16
17 rats, right? 16:27:10	17 to stay in the front room because he had already 16:29:20
18 A. But if you put more than ten rats into 16:27:10	18 set up a situation where no food in the back room, 16:29:22
19 that container, we saw what happened. 16:27:12	19 no water in the back room, no scent of animals in 16:29:26
20 Q. But we have ten rats and we're 16:27:14	20 the back room. Mice go where mice have been. That 16:29:30
21 monitoring the movement of ten rats over two days, 16:27:16	21 means it's safe. They're like that example of 16:29:34
22 is that right? 16:27:18	22 going into the basement to check for the monster. 16:29:36
23 MR. OSTOJIC: Object to form, foundation, 16:27:18	23 If a mouse has been in a room for a week, it's 16:29:38
24 mischaracterizes the test, but go ahead. 16:27:24	24 reluctant to move to the other one. 16:29:44
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1 Q. Well, did they stay in the front room in 16:29:44	1 it, don't we? 16:32:16
2 the untreated apartments? 16:29:48	2 A. Okay, I don't know, but, yes, there is 16:32:16
3 A. Their activity, as he points out and 16:29:48	3 evidence that there are some rats going in there to 16:32:20
4 uses for his conclusion that the effort -- the 16:29:52	4 food. 16:32:22
5 repellents were ineffective, he says, well, there 16:29:56	5 Q. Hold on. Let me get back to that, I'm 16:32:24
6 were high levels of activity in the front room, but 16:30:00	6 sorry. You see consumption in Chamber A on every 16:32:26
7 that's exactly what any scientist, biologist who 16:30:02	7 single day of the test, is that correct? 16:32:30
8 knows mouse behavior would expect if you have set 16:30:06	8 A. Put it this way, you've got ten rats in 16:32:32
9 up a situation -- his control is completely flawed 16:30:08	9 a small room, a small chamber with a small bowl of 16:32:36
10 because the rooms are not the same size, not 16:30:14	10 food. Not all ten rats can go feed at that at the 16:32:40
11 equipped the same way, not smelling the same way. 16:30:16	11 some time. There will be trouble. They will 16:32:42
12 There is nothing about it that makes it a valid 16:30:20	12 defend their right to stay at the bowl and eat. 16:32:46
13 test. 16:30:24	13 Somebody has got to go eat at the other bowl 16:32:48
14 Q. Okay, we'll get to that. Let's talk 16:30:26	14 whether they like it or not. 16:32:52
15 about this. Now, we see that there was food being 16:30:28	15 Q. So even when you put food on both sides 16:32:52
16 consumed in Chamber A throughout this test. 16:30:36	16 of a test, you're still going to have the peaks 16:32:54
17 correct? 16:30:40	17 going to eat the food from both sides, isn't that 16:32:56
18 A. Yes. 16:30:42	18 correct? 16:33:00
19 Q. Okay. And that's because rats were 16:30:44	19 MR. OSTOJC: Object to fact, foundation, 16:33:00
20 going into Chamber A to get the food, is that 16:30:48	20 incomplete hypothetical, but go ahead. 16:33:02
21 correct? 16:30:50	21 BY THE WITNESS: 16:33:04
22 A. And that's because they weren't counting 16:30:50	22 A. Only if you don't give them enough space 16:33:04
23 during the night when rats are active. 16:30:54	23 to stay and eat comfortably on the one side. That 16:33:08
24 Q. Should they have counted during the 16:30:56	24 one small bowl of food forces them into contact. 16:33:12
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1 night? 16:30:58	1 social interaction which is going to be agonistic 16:33:18
2 A. They should have certainly done more 16:30:58	2 and drive them away. 16:33:20
3 counts, but so should Porter who did only two 16:31:00	3 If they don't want to be fighting while 16:33:22
4 counts a day. 16:31:04	4 they eat, they have to go face the sound of it, but 16:33:24
5 Q. Now, in many instances here, we see that 16:31:06	5 they're not liking the sound. It still repels them 16:33:28
6 the food consumed in Chamber A was almost half as 16:31:12	6 when they're not actively feeding. They're going 16:33:32
7 much as in Chamber B, do you see that, or more than 16:31:18	7 back to the more densely occupied side and staying 16:33:34
8 half, excuse me? 16:31:20	8 there, that's repelling, that's the definition of 16:33:36
9 A. Not when we get to the third, fourth. 16:31:26	9 repelling. 16:33:40
10 fifth, sixth days of the test period. 16:31:32	10 BY MR. KOPEL: 16:33:40
11 Q. Okay. So let's talk about the sixth 16:31:38	11 Q. When you say there wasn't enough space, 16:33:40
12 day. We've got 83.4 grams consumed in Chamber B 16:31:40	12 do you know that, or are you speculating? 16:33:42
13 and 43.8 in Chamber A. 16:31:44	13 A. There were ten rats in -- is it 16:33:48
14 A. More than twice as much. 16:31:46	14 16 square feet? Yeah, there were too many rats, 16:33:56
15 Q. Would you agree that 43.8 is more than 16:31:48	15 but they tolerated that except when they were 16:34:02
16 half of the 83.4? 16:31:52	16 trying to feed. 16:34:04
17 MR. OSTOJC: It's less, isn't it? 16:31:52	17 Q. So the over-density of rats affected 16:34:08
18 BY THE WITNESS: 16:31:54	18 their feeding schedule but not their location; it's 16:34:12
19 A. Just right on the border, and the other 16:31:54	19 not possible they were influenced by over-density 16:34:14
20 question is we don't know how much total food was 16:31:56	20 and their location? 16:34:16
21 put into Chamber B. If that became exhausted, then 16:31:58	21 MR. OSTOJC: Object to form, foundation, but 16:34:18
22 they'd have to go to Chamber A to feed. 16:32:00	22 go ahead. 16:34:20
23 BY MR. KOPEL: 16:32:12	23 BY THE WITNESS: 16:34:22
24 Q. No, we do know how much food was put in 16:32:12	24 A. The fact that when they counted food 16:34:22
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1 all the rats in the Chamber B versus Chamber A says 16:34:26
 2 that as long as that repeller was on and they 16:34:36
 3 weren't actively trying to go over to the other 16:34:40
 4 side to food, it was a high probability they were 16:34:42
 5 all in that chamber or else you would have seen 16:34:44
 6 some of them there sooner or later during the 16:34:48
 7 counts. 16:34:50
 8 BY MR. KOPEL: 16:34:50
 9 Q. But there wasn't a single day that the 16:34:50
 10 pest repeller completely drove out rats, is that 16:34:56
 11 correct? 16:35:00
 12 A. And there wasn't a single day where they 16:35:00
 13 saw a rat in that side of the chamber from day 4 16:35:02
 14 on. 16:35:04
 15 Q. But we know there were rats there, isn't 16:35:06
 16 that right? 16:35:06
 17 MR. OSTOJIC: Object to form. 16:35:06
 18 BY THE WITNESS: 16:35:10
 19 A. You have to take the evidence, the 16:35:10
 20 visual evidence. If what you're doing is comparing 16:35:12
 21 number of rats in one side or the other, then to 16:35:16
 22 discount it and say, well, we knew that they were 16:35:20
 23 moving there, that's a different measure that 16:35:22
 24 you're looking at. Yes, there were some rats that 16:35:24

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1 went there, but we don't know how long they spent 16:35:28
 2 there. 16:35:32
 3 BY MR. KOPEL: 16:35:32
 4 Q. Well, let's say there are rats that have 16:35:32
 5 a nest behind the wall of the house and then there 16:35:34
 6 is food inside the house and there is a repeller on 16:35:36
 7 inside the house, wouldn't it be possible those 16:35:40
 8 rats would be running into the house, grabbing the 16:35:42
 9 food and going back just like they did in this 16:35:44
 10 test? 16:35:46
 11 MR. OSTOJIC: Object to form, incomplete 16:35:46
 12 hypothetical, foundation, but go ahead. 16:35:48
 13 BY THE WITNESS: 16:35:52
 14 A. It would depend on the location of the 16:35:52
 15 expeller with regard to the food, and it would be 16:35:56
 16 in direct violation of everything Bell & Howell 16:36:00
 17 says; you have to pick up the food, you should have 16:36:02
 18 no food available in the house. 16:36:06
 19 BY MR. KOPEL: 16:36:06
 20 Q. If there is no food available in a 16:36:10
 21 house, would you expect there would be a rat 16:36:12
 22 infestation? 16:36:14
 23 A. Probably not. 16:36:14
 24 Q. Okay. So do you need a Bell & Howell 16:36:16

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1 pest repeller to fix a rat infestation if there is 16:36:18
 2 no food in your house? 16:36:22
 3 A. I don't think so. 16:36:24
 4 Q. Okay. So in that case, it's not really 16:36:24
 5 settling anything, is that correct? 16:36:28
 6 MR. OSTOJIC: Object to form. 16:36:30
 7 BY THE WITNESS: 16:36:32
 8 A. You wouldn't have an expeller there 16:36:32
 9 unless you thought you had a rodent, yes. 16:36:36
 10 BY MR. KOPEL: 16:36:38
 11 Q. But the fact that there is a rodent 16:36:38
 12 infestation suggests that there is food in the 16:36:42
 13 house, is that correct? 16:36:44
 14 MR. OSTOJIC: Object to form, foundation. 16:36:44
 15 BY THE WITNESS: 16:36:48
 16 A. There is food somewhere, maybe in your 16:36:48
 17 house, maybe in the neighboring apartment maybe. 16:36:50
 18 but this is all hypothetical. All we can address 16:36:52
 19 here for the test is the data as it is which shows 16:36:56
 20 that the repellents are functioning to do the only 16:37:00
 21 thing that you have to do to claim expellency or 16:37:04
 22 repellency. 16:37:08
 23 There are two tests of whether something 16:37:08
 24 is repelling, and that's all that's used in animal 16:37:12

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1 behavior, and that is, Test 1, do you get a change 16:37:16
 2 in the behavior of the animal in response to 16:37:20
 3 turning the unit on, does it predictably alter its 16:37:22
 4 behavior in a way this shows it's hearing it, 16:37:26
 5 that's step one. 16:37:28
 6 Step two, if it moves away from it 16:37:30
 7 consistently, it's repelling it. It doesn't say 16:37:32
 8 that it has to continue to move away from it if 16:37:38
 9 it's starving to death and the food is in the other 16:37:40
 10 room which is exactly the hypothesis that Peter in 16:37:42
 11 his apartment test with only food in one apartment 16:37:48
 12 or one room of the apartment. 16:37:50
 13 BY MR. KOPEL: 16:37:52
 14 Q. Now, the food in Chamber A was within 16:37:52
 15 the line of the pest repeller in this instance, 16:37:54
 16 right? 16:37:58
 17 A. I don't doubt it. 16:38:00
 18 Q. Okay. And notwithstanding that the test 16:38:02
 19 repeller was on the food, the rats still went for 16:38:04
 20 that food, is that correct? 16:38:08
 21 A. Well, since it disappeared, that would 16:38:10
 22 seem to be the case, but it doesn't indicate that 16:38:14
 23 they stayed there for any length of time. It's eat 16:38:16
 24 and run because you don't get a chance to eat in 16:38:18

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1	Chamber B, you're still repelled back to Chamber B.	16:38:22
2	The only question is does it repel, and that is	16:38:24
3	proven absolutely by this, the rats have moved away	16:38:28
4	from it.	16:38:32
5	Q. Does this test show that the	16:38:32
6	Bell & Howell repellents can drive rats out of the	16:38:34
7	house?	16:38:36
8	MR. OSTOJIC: Object to form, foundation.	16:38:38
9	BY THE WITNESS:	16:38:40
10	A. You can't drive rats out of the house if	16:38:40
11	there is no way for them to leave. All the tests	16:38:42
12	that are done in these circumstances are closed	16:38:46
13	chambers.	16:38:48
14	BY MR. KOPEL:	16:38:50
15	Q. Okay.	16:38:50
16	A. That forces habitation.	16:38:50
17	Q. I think you might have misunderstood the	16:38:52
18	question. I'm talking about in the real world.	16:38:54
19	Does the data from this test suggest that the	16:38:56
20	Bell & Howell test repellents will drive rats out of	16:39:00
21	the house?	16:39:06
22	MR. OSTOJIC: Object, incomplete hypothetical,	16:39:06
23	but go ahead.	16:39:08
24	BY THE WITNESS:	16:39:12
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1	A. They don't claim that they drive them	16:39:12
2	out of the house. They claim they repel them, and	16:39:14
3	they can only repel them to the distance to which	16:39:16
4	the sound is audible to them.	16:39:18
5	BY MR. KOPEL:	16:39:20
6	Q. And rats might have a nest behind the	16:39:20
7	walls of the house, is that right?	16:39:24
8	A. True.	16:39:26
9	Q. And they might, when they're hungry,	16:39:26
10	come into the house and get food and go back to the	16:39:28
11	nest, is that correct?	16:39:32
12	A. Not if you don't have food available for	16:39:32
13	them.	16:39:34
14	Q. Right. But is there food in your house?	16:39:34
15	A. Not on the floor, not out where they can	16:39:36
16	get at it.	16:39:38
17	Q. And you still had mice coming in, didn't	16:39:40
18	you?	16:39:42
19	A. Oh, in my farm house?	16:39:42
20	Q. Yes.	16:39:44
21	A. I always had food available for them.	16:39:44
22	That was one of the parts that made it a real world	16:39:46
23	test. My garbage was always between the stove and	16:39:48
24	the sink, and there was always an open container of	16:39:52
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1	compost materials on the kitchen counter.	16:39:54
2	Q. Right. And most people have garbage in	16:39:56
3	their kitchen, right?	16:40:02
4	A. Yeah, right.	16:40:02
5	Q. And rats and mice can eat that, right?	16:40:02
6	A. But if you're concerned about a rat or a	16:40:04
7	mouse in your house, then the first thing any	16:40:06
8	logical person would do is pick up the trash and	16:40:10
9	put it in a garbage can.	16:40:12
10	Q. Yeah, but rats and mice can still get	16:40:14
11	food from a garbage can, can't they?	16:40:16
12	A. If you close the top?	16:40:16
13	Q. They can still get inside a pantry and	16:40:18
14	get food from inside a pantry, can't they?	16:40:22
15	A. If you let them gnaw through the wood	16:40:24
16	and whatever, yes, it's a matter of --	16:40:26
17	Q. They can still get behind a refrigerator	16:40:28
18	if there is food there, can't they?	16:40:30
19	A. We're not talking about --	16:40:34
20	MR. OSTOJIC: Object, incomplete hypothetical,	16:40:36
21	but go ahead.	16:40:38
22	BY THE WITNESS:	16:40:38
23	A. We're carrying on things that are just,	16:40:38
24	as far as I'm concerned, off the topic of what	16:40:42
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1	constitutes proper tests.	16:40:46
2	BY MR. KOPEL:	16:40:46
3	Q. I know you contend that Bell & Howell	16:40:46
4	never said this, but my question to you from	16:40:50
5	earlier is does the data from this test show that	16:40:52
6	the repellents are capable of driving rats or mice	16:40:56
7	out of the house?	16:41:00
8	MR. OSTOJIC: Same objections as before, but	16:41:00
9	go ahead.	16:41:02
10	BY THE WITNESS:	16:41:04
11	A. It is Dr. Potter's posit that you have	16:41:04
12	to drive them out of the house. He recites that	16:41:08
13	again and again as his designated means of defining	16:41:12
14	whether it repels them. But even in his apartment	16:41:18
15	tests, he has set up a situation where	16:41:22
16	theoretically they could not escape the apartments.	16:41:24
17	they could not be driven out, and yet the mice	16:41:26
18	proved him wrong. They chewed through the walls,	16:41:30
19	the barriers, they got out of the apartment, they	16:41:32
20	got out of the sound system range, and he failed to	16:41:34
21	count those as expelled.	16:41:36
22	BY MR. KOPEL:	16:41:40
23	Q. I want you to please listen to the	16:41:40
24	question and try to answer what I'm asking you	16:41:42
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1 because I didn't ask anything about Mike Potter, 16:41:44	1 in a space larger than 4 feet by 4 feet by 2 feet, 16:44:00
2 Does the data from this test show that 16:41:46	2 is that correct? 16:44:04
3 the Bell & Howell repellents are capable of driving 16:41:50	3 A. Let's go to the more realistic in 16:44:08
4 mice or rats out of the house? 16:41:52	4 Potter's tests and then we're dealing with a larger 16:44:12
5 MR. OSTOJIC: Same objections. 16:41:54	5 space. 16:44:14
6 BY THE WITNESS: 16:42:02	6 Q. We're going to be stuck here all day if 16:44:14
7 A. Only if you have enough repellents to 16:42:02	7 you keep talking about Potter while I'm trying to 16:44:16
8 cover the entire area of the house and keep them 16:42:04	8 talk to you about this test. 16:44:18
9 exposed to the sound. 16:42:06	9 A. It's a hypothetical. It's a 16:44:18
10 BY MR. KOPEL: 16:42:08	10 hypothetical. 16:44:22
11 Q. That's supported by the data from this 16:42:08	11 Q. It's not. I'm asking if the data 16:44:22
12 test? 16:42:12	12 supports that. You're a scientist, right? 16:44:24
13 A. It's supported by common sense. The 16:42:14	13 A. As a scientist, I would say that by the 16:44:26
14 test shows that they will repel them. That is the 16:42:18	14 high level of efficacy with all the animals having 16:44:28
15 thing that Bell & Howell claims is it will repel 16:42:24	15 moved as far away as possible, it does support that 16:44:32
16 them. Out of the house is Potter's definition of 16:42:28	16 conclusion. 16:44:34
17 success. 16:42:32	17 Q. What would have happened if the chambers 16:44:34
18 Q. I understand that you might disagree 16:42:32	18 were twice the size? 16:44:36
19 with me about what is being claimed, and that's 16:42:34	19 A. I fully believe that you would have seen 16:44:40
20 not -- you've been on the record stating that, but 16:42:38	20 the same results. 16:44:42
21 I'm asking you a specific question, okay? 16:42:40	21 Q. Do you have evidence of that? 16:44:44
22 Have you seen anything from this test to 16:42:44	22 A. How can I? 16:44:48
23 imply that the repellents are capable of driving 16:42:46	23 Q. What would have happened if this test 16:44:58
24 these pests out of the house? 16:42:48	24 had gone on for 14 days? 16:45:00
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1 MR. OSTOJIC: Same objection and asked and 16:42:50	1 A. I have absolutely no way of knowing. 16:45:02
2 answered. 16:42:50	2 Q. Would the rats that kept going into 16:45:04
3 BY MR. KOPEL: 16:42:50	3 Chamber A to get food, would they have become 16:45:08
4 Q. I'll keep asking. I just need a yes or 16:42:52	4 habituated and evened out between the two chambers? 16:45:10
5 no. 16:42:54	5 A. I have no way of knowing. 16:45:14
6 A. The test only covers four square -- or a 16:42:54	6 Q. So can you draw any conclusions 16:45:16
7 32 square foot area. How can you answer that 16:43:02	7 regarding the efficacy of Bell & Howell test 16:45:22
8 larger question on the basis of that small a 16:43:06	8 repellents beyond seven days based on these tests? 16:45:26
9 sample? 16:43:10	9 A. Looking at it, they were still showing 16:45:32
10 Q. Does that mean that the data does not 16:43:10	10 efficacy on the seventh day with all the rats 16:45:34
11 support that statement, or does it, yes, support 16:43:12	11 having been forced in the other chamber. If the 16:45:38
12 that statement? That's my entire question. If the 16:43:14	12 test had gone on, we would have evidence which 16:45:42
13 data is insufficient to support it, your answer 16:43:18	13 would show us whether it persisted, but most other 16:45:44
14 might be no, but I'm looking for a yes or no, and 16:43:20	14 tests that have been done ran for only one or 16:45:46
15 I'm happy to let you elaborate, but I've asked you 16:43:22	15 two days to show habituation. 16:45:50
16 a yes or no question several times now. 16:43:26	16 MR. KOPEL: Can you please read back my 16:45:58
17 MR. OSTOJIC: Same objections, incomplete. 16:43:28	17 question? 16:46:00
18 hypothetical, but go ahead. 16:43:30	18 (WHEREUPON, the record was read. 16:46:00
19 BY THE WITNESS: 16:43:36	19 as requested.) 16:46:00
20 A. It only shows that it works over the 16:43:36	20 BY MR. KOPEL: 16:46:00
21 distances specified here. 16:43:40	21 Q. So I appreciate that explanation, and 16:46:00
22 BY MR. KOPEL: 16:43:46	22 I'm always going to let you elaborate on any 16:46:56
23 Q. So, in fact, this data cannot support 16:43:46	23 answer, but I did ask you a yes or no question, 16:46:58
24 any sort of finding that these repellents would work. 16:43:54	24 Can you draw any conclusions on the 16:47:00
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1 effectiveness of Bell & Howell test repellents 16:47:04
 2 beyond seven days based on the data from those 16:47:06
 3 tests, and I'm happy to let you elaborate as much 16:47:10
 4 as you like, but it is a yes or no question, 16:47:12
 5 please? 16:47:16
 6 A. It's not my habit to speculate without 16:47:16
 7 evidence, and a yes or no answer, I don't know. 16:47:20
 8 Q. Is it possible that the mice and rats 16:47:28
 9 might have become habituated to the sound in week 16:47:32
 10 two? 16:47:36
 11 A. I would say -- 16:47:36
 12 MR. OSTOJC: Object to form and foundation, 16:47:38
 13 but go ahead 16:47:40
 14 BY THE WITNESS: 16:47:40
 15 A. I would say certainly over time I would 16:47:40
 16 expect them to habituate in an enclosed environment 16:47:42
 17 where they cannot escape that sound. 16:47:46
 18 BY MR. KOPPEL: 16:47:48
 19 Q. Do you contend that the mice and rats 16:47:48
 20 were able to hear the -- or detect the ultrasound 16:47:50
 21 in Chamber B during this experiment? 16:47:56
 22 A. That size chambers, yes, I'm pretty 16:48:00
 23 certain they were hearing it, but they were staying 16:48:02
 24 away. 16:48:04

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1 Q. Even though there was a curved tunnel? 16:48:06
 2 A. Yeah. Plexiglas caused the sound to 16:48:08
 3 bend. It's a hard surface. Ultrasound, even if it 16:48:12
 4 wasn't aimed directly at it, would bounce through 16:48:18
 5 it. 16:48:20
 6 Q. If mice or rats were found in the 16:48:24
 7 tunnel, which side was that counted as? 16:48:26
 8 A. I have no recollection. 16:48:32
 9 Q. Well, you have the test in front of you, 16:48:34
 10 right? 16:48:36
 11 A. What page again? 16:48:40
 12 MR. OSTOJC: Go through the whole thing. 16:48:46
 13 BY MR. KOPPEL: 16:48:46
 14 Q. It starts on page 55. 16:48:48
 15 A. It doesn't state. Page 58 doesn't state 16:49:30
 16 anything other than if they were in Chamber B or in 16:49:40
 17 Chamber A, it doesn't state what they did with 16:49:44
 18 ones in between if there were ones in between. 16:49:50
 19 Q. Well, they must have been counted one 16:49:54
 20 way or the other because we always equal ten on 16:49:56
 21 every single day, is that correct? 16:50:00
 22 A. Well, that would imply that there were 16:50:02
 23 no rats in the connecting tube. 16:50:04
 24 Q. Or they were counted as being repelled 16:50:06

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1 or not repelled but more likely repelled, is that 16:50:10
 2 correct? 16:50:12
 3 MR. OSTOJC: Object to form. 16:50:32
 4 BY THE WITNESS: 16:50:16
 5 A. Well, they specifically indicate the 16:50:16
 6 presence in Chamber A or Chamber B, not in the 16:50:20
 7 tube; therefore, we must assume, if they counted 16:50:22
 8 them, they were in Chamber A or Chamber B. 16:50:28
 9 BY MR. KOPPEL: 16:50:42
 10 Q. Would you please take a quick look back 16:50:42
 11 in Exhibit 12? That's the 2016 test we were 16:50:50
 12 looking at earlier. 16:50:58
 13 A. Page? 16:51:02
 14 Q. Page 92 -- yes, page 92 I believe is 16:51:04
 15 what I'm referencing. 16:51:10
 16 A. I only go up to 69. 16:51:10
 17 Q. In Exhibit 12? 16:51:12
 18 A. Oh, 12. 16:51:14
 19 Q. No, 14, I'm sorry, the 2016 test right 16:51:22
 20 there. 16:51:26
 21 MR. OSTOJC: What page number? 16:51:26
 22 BY MR. KOPPEL: 16:51:26
 23 Q. Page number 92. 16:51:28
 24 A. Okay. 16:51:42

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1 Q. You're on page 92? 16:51:44
 2 A. I am. 16:51:44
 3 Q. Do you see at the bottom it says, 16:51:46
 4 "Remark, the quantity of the tunnel is counted as 16:51:46
 5 Chamber B?" 16:51:50
 6 A. That only applies to this 2016 test. It 16:51:50
 7 was not stipulated for 2010 -- excuse me, 2011 or 16:51:54
 8 2014, and they probably had to count it in this one 16:51:58
 9 because they had so many rats or mice that some of 16:52:02
 10 them were always in there to avoid the presence of 16:52:04
 11 others. 16:52:06
 12 Q. If the quantity of the tunnel was 16:52:08
 13 counted as Chamber B, would that be appropriate? 16:52:16
 14 MR. OSTOJC: Object to form, foundation, but 16:52:18
 15 go ahead. 16:52:22
 16 BY THE WITNESS: 16:52:22
 17 A. We have no indications that it was in 16:52:22
 18 2011 or '14. 16:52:24
 19 BY MR. KOPPEL: 16:52:26
 20 Q. Okay. Did you hear -- my question was 16:52:26
 21 would that be appropriate to do so? They did so in 16:52:28
 22 2016, correct? 16:52:30
 23 A. They did. 16:52:32
 24 Q. Was that correct that they did that? 16:52:32

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1 A. Different test group. The tunnel itself 16:52:34	1 that be proper? 16:55:44
2 should be considered the tunnel. 16:52:40	2 A. They did that in the 2016. There is no 16:55:50
3 Q. Should it be considered Chamber B? 16:52:42	3 indication they ever did that in 2011 or 2014. It 16:55:54
4 A. It shouldn't be considered Chamber B any 16:52:46	4 would not be proper. 16:55:58
5 more than the hallways in the Potter studies should 16:52:48	5 Q. Do you know that they didn't do that in 16:56:06
6 be considered the front room. 16:52:52	6 2011, 2014? 16:56:08
7 Q. Is that a no, it should not be 16:52:54	7 A. They would have had to mention it if 16:56:10
8 considered Chamber B? 16:52:56	8 they replaced an animal. They mentioned the deaths 16:56:12
9 A. Yes. 16:52:58	9 of them in 2016. Potter was all over it. 16:56:16
10 Q. Okay. And it shouldn't be 16:53:00	10 Q. Okay. Please take a look at the 2016 16:56:24
11 considered -- okay. And this test was done by 16:53:02	11 test and tell me where they mention the death? 16:56:28
12 Intertek, you see that, right? 16:53:06	12 A. Actually, it's Potter who mentioned it. 16:56:32
13 A. Uh-huh. 16:53:08	13 complained that there was death and replacement of 16:56:34
14 Q. And that's the same company that did 16:53:08	14 rats in the 2016 test. 16:56:36
15 this other test we're looking at, correct? 16:53:10	15 Q. Okay. My question was can you please 16:56:38
16 A. But since it doesn't specify what they 16:53:14	16 identify -- you just said that they mentioned death 16:56:40
17 did, we don't know. 16:53:14	17 in the 2016 test, so I'm asking can you please 16:56:44
18 Q. You don't know -- 16:53:16	18 identify where it says that? 16:56:48
19 A. The rules got changed in 2016 when they 16:53:18	19 A. I'm not sure Intertek mentioned it. 16:56:48
20 stuffed more in, and it was different people 16:53:20	20 MR. OSTOJIC: If you want to go through it, 16:56:50
21 running the tests, was it not? Well, I guess it's 16:53:26	21 the question is -- he wants you to find it. I 16:56:52
22 still Leo Lin and Sam Lin. 16:53:30	22 think it's Exhibit 14. 16:56:58
23 Q. No, it's the same people. 16:53:32	23 BY THE WITNESS: 16:57:30
24 A. Okay. 16:53:32	24 A. It doesn't look as though any died. 16:57:30
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1 Q. But you don't know, they might have 16:53:34	1 MR. OSTOJIC: It does. 16:57:34
2 counted it as Chamber B; you just don't know, 16:53:36	2 THE WITNESS: Pardon? 16:57:34
3 correct? 16:53:40	3 BY MR. KOPEL: 16:57:34
4 A. Yes. I'm sorry. 16:53:42	4 Q. In 2016. 16:57:36
5 Q. That's fine. How many mice or rats died 16:53:44	5 MR. KOPEL: Please don't communicate with the 16:57:40
6 during the course of this 2014 testing? 16:53:52	6 witness right now. 16:57:42
7 A. During the 2014 testing? 16:53:56	7 MR. OSTOJIC: Go through the entire Exhibit 16:57:46
8 Q. It's not a memory test. You can look at 16:54:02	8 I know it's late and we've been here hours. 16:57:48
9 it. 16:54:06	9 BY THE WITNESS: 16:57:54
10 A. 2014, that's this one. Can you give 16:54:06	10 A. Okay. They start with 20 rats 16:57:54
11 me a -- 2014 test is 13? 16:54:18	11 and -- okay. During preliminary testing they're 16:57:56
12 Q. Yes, this was 13, and I'm -- it began -- 16:54:28	12 down to 18 rats, so, yes, they did, and then 16. 16:58:00
13 MR. OSTOJIC: I think it was from 55. 16:54:36	13 Somehow they must have added rats in there because 16:58:06
14 BY MR. KOPEL: 16:54:36	14 now you're up to 19 and 20, 20. 19. So, yes, if I 16:58:08
15 Q. 55 and onward. 16:54:40	15 recall correctly, five to seven rats died in it. 16:58:14
16 A. Okay. Since we start with ten rats and 16:54:42	16 MR. OSTOJIC: Look at the entire Exhibit. 16:58:18
17 on post testing we still have seven and three and 16:55:14	17 Review the entire Exhibit. He wants you to go 16:58:22
18 eight and four, it would appear that none of them 16:55:18	18 through the Exhibit. 16:58:24
19 could have died, but there must be -- oh, wait, 16:55:24	19 BY THE WITNESS: 16:58:52
20 excuse me, that's six and four for the final post 16:55:28	20 A. I'm not sure where you're looking or 16:58:52
21 testing day, so you still have ten rats on the 16:55:32	21 what you're driving at. 16:58:58
22 final day which means no rats died in that test. 16:55:34	22 BY MR. KOPEL: 16:58:58
23 Q. If a rat had died in the middle of the 16:55:36	23 Q. Let's slow down, okay. I think you 16:58:58
24 testing period and was replaced by a new rat, would 16:55:42	24 mentioned earlier that the 2016 test notes when the 16:59:02
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1 that be proper? 16:55:44	1 that be proper? 16:55:44
2 A. They did that in the 2016. There is no 16:55:50	2 A. They did that in the 2016. There is no 16:55:50
3 indication they ever did that in 2011 or 2014. It 16:55:54	3 indication they ever did that in 2011 or 2014. It 16:55:54
4 would not be proper. 16:55:58	4 would not be proper. 16:55:58
5 Q. Do you know that they didn't do that in 16:56:06	5 Q. Do you know that they didn't do that in 16:56:06
6 2011, 2014? 16:56:08	6 2011, 2014? 16:56:08
7 A. They would have had to mention it if 16:56:10	7 A. They would have had to mention it if 16:56:10
8 they replaced an animal. They mentioned the deaths 16:56:12	8 they replaced an animal. They mentioned the deaths 16:56:12
9 of them in 2016. Potter was all over it. 16:56:16	9 of them in 2016. Potter was all over it. 16:56:16
10 Q. Okay. Please take a look at the 2016 16:56:24	10 Q. Okay. Please take a look at the 2016 16:56:24
11 test and tell me where they mention the death? 16:56:28	11 test and tell me where they mention the death? 16:56:28
12 A. Actually, it's Potter who mentioned it. 16:56:32	12 A. Actually, it's Potter who mentioned it. 16:56:32
13 complained that there was death and replacement of 16:56:34	13 complained that there was death and replacement of 16:56:34
14 rats in the 2016 test. 16:56:36	14 rats in the 2016 test. 16:56:36
15 Q. Okay. My question was can you please 16:56:38	15 Q. Okay. My question was can you please 16:56:38
16 identify -- you just said that they mentioned death 16:56:40	16 identify -- you just said that they mentioned death 16:56:40
17 in the 2016 test, so I'm asking can you please 16:56:44	17 in the 2016 test, so I'm asking can you please 16:56:44
18 identify where it says that? 16:56:48	18 identify where it says that? 16:56:48
19 A. I'm not sure Intertek mentioned it. 16:56:48	19 A. I'm not sure Intertek mentioned it. 16:56:48
20 MR. OSTOJIC: If you want to go through it, 16:56:50	20 MR. OSTOJIC: If you want to go through it, 16:56:50
21 the question is -- he wants you to find it. I 16:56:52	21 the question is -- he wants you to find it. I 16:56:52
22 think it's Exhibit 14. 16:56:58	22 think it's Exhibit 14. 16:56:58
23 BY THE WITNESS: 16:57:30	23 BY THE WITNESS: 16:57:30
24 A. It doesn't look as though any died. 16:57:30	24 A. It doesn't look as though any died. 16:57:30
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1 MR. OSTOJIC: It does. 16:57:34	1 MR. OSTOJIC: It does. 16:57:34
2 THE WITNESS: Pardon? 16:57:34	2 THE WITNESS: Pardon? 16:57:34
3 BY MR. KOPEL: 16:57:34	3 BY MR. KOPEL: 16:57:34
4 Q. In 2016. 16:57:36	4 Q. In 2016. 16:57:36
5 MR. KOPEL: Please don't communicate with the 16:57:40	5 MR. KOPEL: Please don't communicate with the 16:57:40
6 witness right now. 16:57:42	6 witness right now. 16:57:42
7 MR. OSTOJIC: Go through the entire Exhibit 16:57:46	7 MR. OSTOJIC: Go through the entire Exhibit 16:57:46
8 I know it's late and we've been here hours. 16:57:48	8 I know it's late and we've been here hours. 16:57:48
9 BY THE WITNESS: 16:57:54	9 BY THE WITNESS: 16:57:54
10 A. Okay. They start with 20 rats 16:57:54	10 A. Okay. They start with 20 rats 16:57:54
11 and -- okay. During preliminary testing they're 16:57:56	11 and -- okay. During preliminary testing they're 16:57:56
12 down to 18 rats, so, yes, they did, and then 16. 16:58:00	12 down to 18 rats, so, yes, they did, and then 16. 16:58:00
13 Somehow they must have added rats in there because 16:58:06	13 Somehow they must have added rats in there because 16:58:06
14 now you're up to 19 and 20, 20. 19. So, yes, if I 16:58:08	14 now you're up to 19 and 20, 20. 19. So, yes, if I 16:58:08
15 recall correctly, five to seven rats died in it. 16:58:14	15 recall correctly, five to seven rats died in it. 16:58:14
16 MR. OSTOJIC: Look at the entire Exhibit. 16:58:18	16 MR. OSTOJIC: Look at the entire Exhibit. 16:58:18
17 Review the entire Exhibit. He wants you to go 16:58:22	17 Review the entire Exhibit. He wants you to go 16:58:22
18 through the Exhibit. 16:58:24	18 through the Exhibit. 16:58:24
19 BY THE WITNESS: 16:58:52	19 BY THE WITNESS: 16:58:52
20 A. I'm not sure where you're looking or 16:58:52	20 A. I'm not sure where you're looking or 16:58:52
21 what you're driving at. 16:58:58	21 what you're driving at. 16:58:58
22 BY MR. KOPEL: 16:58:58	22 BY MR. KOPEL: 16:58:58
23 Q. Let's slow down, okay. I think you 16:58:58	23 Q. Let's slow down, okay. I think you 16:58:58
24 mentioned earlier that the 2016 test notes when the 16:59:02	24 mentioned earlier that the 2016 test notes when the 16:59:02
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1 mice and the rats died. Do you recall saying that?	16:59:06	1 MR. OSTOJIC: Object to form, foundation.	17:03:02
2 A. Well, it certainly shows the decrease in	16:59:12	2 BY THE WITNESS:	17:03:10
3 total numbers, and since we're dealing with	16:59:14	3 A. I guess that's true.	17:03:10
4 Plexiglas, it's a little hard to figure out where	16:59:18	4 BY MR. KOPEL:	17:03:12
5 they disappeared.	16:59:20	5 Q. Does that make you question the	17:03:12
6 Q. Right. So it's apparent from the	16:59:22	6 qualifications of Leo and Sam Lin?	17:03:12
7 numbers. Do you see any notes discussing how many	16:59:24	7 A. On the basis of supposition that they're	17:03:20
8 died?	16:59:26	8 not putting in information?	17:03:24
9 MR. OSTOJIC: Objection. The document speaks	16:59:26	9 Q. No. So maybe I'll clarify. Does the	17:03:26
10 for itself, but GO through the entirety of the	16:59:28	10 fact that Leo and Sam Lin replaced dead rats in the	17:03:28
11 document, especially --	16:59:32	11 2016 study make you question their qualifications	17:03:32
12 MR. KOPEL: Don't -- please don't do that.	16:59:34	12 to performing these kinds of tests?	17:03:36
13 MR. OSTOJIC: It's without purpose. It's	16:59:40	13 A. They did it out of desperation trying to	17:03:38
14 there.	17:00:10	14 keep the test valid which of course we've already	17:03:42
15 BY MR. KOPEL:	17:01:38	15 said it wasn't.	17:03:46
16 Q. The question pending, just as a	17:01:38	16 Q. Okay. Do you believe that a qualified	17:03:48
17 reminder, is can you please show me where in the	17:01:40	17 scientist would do such a thing?	17:03:50
18 2016 report there is a notation that dead rats were	17:01:42	18 A. I wouldn't, but we don't know whether	17:03:56
19 found or miss?	17:01:48	19 Intertek decided they needed -- whether Diane	17:04:02
20 A. I'm not finding that notation anywhere.	17:01:52	20 Feuerstein said we need to have more rats in here.	17:04:08
21 The variation in numbers confounds me	17:01:56	21 or more mice in here. We don't know the source of	17:04:10
22 Q. The variation in numbers seems to imply	17:01:58	22 it.	17:04:14
23 that mice and rats had died in the middle of the	17:02:02	23 Q. If Ms. Feuerstein said that to you,	17:04:14
24 experiment and they were subsequently replaced.	17:02:04	24 would you do it?	17:04:16
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1 Would you agree with that?	17:02:08	1 A. Would I, no.	17:04:16
2 A. It would imply that.	17:02:10	2 Q. Would any qualified scientist do that?	17:04:18
3 Q. Okay. Do you have any --	17:02:12	3 MR. OSTOJIC: Object to form, foundation, but	17:04:20
4 A. And Dr. Potter stipulated the same thing	17:02:16	4 go ahead and answer.	17:04:22
5 about this, that there were rats replaced during	17:02:18	5 BY THE WITNESS:	17:04:22
6 the study.	17:02:22	6 A. A scrupulous scientist would not, but	17:04:22
7 Q. Do you have any indication whether the	17:02:24	7 we're looking at a test that was flawed to begin	17:04:26
8 same thing occurred -- do you have any indication	17:02:30	8 with.	17:04:32
9 that the same thing did not occur in the 2014 test?	17:02:32	9 BY MR. KOPEL:	17:04:32
10 MR. OSTOJIC: Objection, already asked and	17:02:34	10 Q. So would you agree that this tends to	17:04:32
11 answered.	17:02:36	11 show that Leo and Sam Lin were not scrupulous	17:04:34
12 BY THE WITNESS:	17:02:38	12 scientists?	17:04:38
13 A. There is no indication of fluctuation in	17:02:38	13 MR. OSTOJIC: Object, form, foundation,	17:04:38
14 the numbers. Everyday's rat total adds to ten.	17:02:40	14 mischaracterizes his testimony.	17:04:40
15 BY MR. KOPEL:	17:02:46	15 BY THE WITNESS:	17:04:44
16 Q. Would there need to be, or could they	17:02:46	16 A. Yeah, I don't have enough data to	17:04:44
17 have replaced them at another point in which they	17:02:48	17 support that. It's not my nature to accuse anybody	17:04:46
18 were not counted?	17:02:52	18 of misdeed or judge on this -- on supposition of	17:04:54
19 MR. OSTOJIC: Object to form, foundation.	17:02:52	19 misdeeds whether they are conscientious enough	17:04:58
20 BY THE WITNESS:	17:02:56	20 about their work to carry out a simple count.	17:05:04
21 A. That would be into speculation since	17:02:56	21 BY MR. KOPEL:	17:05:08
22 it's not recorded in their cables.	17:02:56	22 Q. And I wasn't trying to cast aspersions	17:05:08
23 BY MR. KOPEL:	17:03:00	23 but --	17:05:16
24 Q. So we don't know either way, correct?	17:03:00	24 MR. OSTOJIC: Yeah, that's what you did.	17:05:16
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1 BY MR. KOPEL: 17:05:16	1 her dreams, 15 to 20. 17:21:50
2 Q. Rather than casting aspersions, this 17:05:20	2 BY MR. KOPEL: 17:21:52
3 might have been -- the two Lins who conducted the 17:05:22	3 Q. Well, I'm glad she got to do that. How 17:21:52
4 study might have done -- might have replaced the 17:05:26	4 many square feet? 17:21:56
5 dead animals out of incompetence, correct? 17:05:32	5 A. Just under 7,000. 17:21:58
6 MR. OSTOJIC: Object to form, foundation, 17:05:34	6 Q. That's awesome. 17:22:02
7 incomplete hypothetical. 17:05:36	7 A. It was her money, had to let her do 17:22:06
8 BY THE WITNESS: 17:05:46	8 that. 17:22:08
9 A. I don't know the mindset of these people 17:05:46	9 Q. What's the maximum coverage area? 17:22:10
10 and why they did what they did. They were trying 17:05:50	10 MR. OSTOJIC: Object to form. 17:22:14
11 to -- probably trying to salvage a very flawed 17:05:52	11 BY MR. KOPEL: 17:22:14
12 experiment which we've already said didn't have any 17:05:54	12 Q. I mean I know you said minimum. Can you 17:22:16
13 strong evidence, although looking at the numbers, 17:05:58	13 explain what you meant by minimum earlier? 17:22:18
14 the efficacy of the repellers still shows that they 17:06:02	14 A. Well, that was the minimum considering 17:22:20
15 all moved to Chamber B. 17:06:04	15 that you might have had carpet. I'd say the 17:22:24
16 BY MR. KOPEL: 17:06:06	16 maximum it's a matter of the nature of the 17:22:26
17 Q. Would a competent scientist try to stuff 17:06:06	17 surfaces. In the absence of carpet, hard surface, 17:22:32
18 20 rats into a small acrylic chamber? 17:06:10	18 the sound will bounce and travel farther with less 17:22:34
19 MR. OSTOJIC: Object to form, foundation, 17:06:16	19 attenuation. 17:22:38
20 incomplete hypothetical. 17:06:16	20 Q. When you said 175 square feet, what are 17:22:40
21 BY THE WITNESS: 17:06:18	21 you basing that on? 17:22:46
22 A. I would say it shows a lack of knowledge 17:06:18	22 A. That was the estimated size of coverage 17:22:46
23 about the behavior of the animals. 17:06:22	23 given by Diane Feuerstein in her deposition as the 17:22:50
24 MR. KOPEL: Let's take a break, please. 17:06:32	24 planned or specified dimensions of the average room 17:23:00
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1 THE VIDEOGRAPHER: We are off the record at 17:06:34	1 as they gave that information to Bell & Howell. I 17:23:06
2 5:00 o'clock p.m. 17:06:36	2 mean that's a Chinese estimate. 17:23:10
3 (WHEREUPON, a short break was had.) 17:20:48	3 Q. Okay. So have you seen any evidence 17:23:14
4 THE VIDEOGRAPHER: We are back on the record 17:20:48	4 that it covers an area of 175 square feet or you're 17:23:18
5 at 5:14 p.m. 17:20:50	5 just basing that on something she said? 17:23:24
6 BY MR. KOPEL: 17:20:50	6 MR. OSTOJIC: Object to form, foundation, but 17:23:26
7 Q. Dr. Whitford, in a room without carpet, 17:21:06	7 go ahead. 17:23:28
8 what would the coverage area of a Bell & Howell 17:21:10	8 BY THE WITNESS: 17:23:32
9 repeller be? 17:21:14	9 A. I've seen nothing to the contrary, no 17:23:32
10 A. In a room without carpet? 17:21:16	10 evidence to the contrary other than my own work 17:23:36
11 MR. OSTOJIC: Object, incomplete hypothetical, 17:21:18	11 with it where, you know, in spite of the fact that 17:23:38
12 but go ahead. 17:21:20	12 it's around the corner and down the stairs with 17:23:42
13 BY THE WITNESS: 17:21:20	13 that thing on, I don't have any problem with mice. 17:23:44
14 A. Minimum of about 175 square feet 17:21:20	14 but that's probably because if they don't come up 17:23:48
15 depending again on the shape and presence of 17:21:26	15 to find food and water, they go someplace else, 17:23:52
16 structures in that room. 17:21:28	16 they leave the house because they will starve down 17:23:56
17 BY MR. KOPEL: 17:21:32	17 in my basement. 17:24:00
18 Q. If you wanted to protect your whole 17:21:32	18 BY MR. KOPEL: 17:24:16
19 primary residence using Bell & Howell pest 17:21:36	19 Q. How big -- do you have any rooms in your 17:24:16
20 repellers, how many would you need? 17:21:40	20 house that are 175 square feet or less? 17:24:18
21 MR. OSTOJIC: Object to form, foundation, 17:21:40	21 A. Which house, my actual farm house? 17:24:24
22 incomplete hypothetical. 17:21:42	22 Virtually every room of the six bedrooms, kitchen 17:24:28
23 BY THE WITNESS: 17:21:46	23 and living room is under 175 square feet in my farm 17:24:32
24 A. Given that my wife built a mansion of 17:21:46	24 house. 17:24:36
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1	Q. How about your primary residence?	17:24:36	1	mark --	17:29:04
2	A. It's opulent.	17:24:38	2	A. Okay, multiple --	17:29:04
3	Q. Would you agree that the average	17:24:40	3	Q. Oh, you see it?	17:29:04
4	American room is bigger -- well, let's actually be	17:24:42	4	A. Multiple units may be necessary for	17:29:06
5	more specific. Would you agree the average	17:24:46	5	larger rooms. That's all it says.	17:29:10
6	American kitchen is bigger than 175 square feet?	17:24:48	6	Q. Okay. It doesn't say square footage	17:29:12
7	MR. OSTYJC: Objection to form, foundation, may	17:24:50	7	there, right?	17:29:16
8	call for speculation.	17:24:54	8	A. No.	17:29:16
9	BY THE WITNESS:	17:24:56	9	MR. KOPEL: I'll ask the Court Reporter to	17:29:22
10	A. On one end of the scale, you have	17:24:56	10	please mark as Exhibit 13 a document bearing Bates	17:29:24
11	numerous small kitchen apartment -- or small	17:24:58	11	number B&H, LLC 006356.	17:29:28
12	apartment kitchens and small house kitchens. I	17:25:02	12	(WIDERUPON, a certain document was	17:29:28
13	mean I grew up in the 1950's and 1940's housing.	17:25:04	13	marked Whitford Deposition Exhibit	
14	Those kitchens were rarely 150 square feet. So now	17:25:08	14	No. 15, for identification, as of	
15	in the present day, you run the gamut of all those	17:25:14	15	(11/12/2018.)	
16	small houses and now the McMansions that are going	17:25:22	16	BY MR. KOPEL:	
17	up.	17:25:24	17	Q. Do you have Exhibit 15?	17:29:52
18	BY MR. KOPEL:	17:25:24	18	A. I do.	17:29:58
19	Q. If consumers had not been told a	17:25:24	19	Q. Okay. Do you see that is an email?	17:29:58
20	specific square footage for the Bell & Howell	17:25:32	20	A. I've never seen this email before.	17:30:04
21	repellers, they would not know how many would be	17:25:34	21	Q. But you see that it's an email, correct?	17:30:06
22	needed to be used effectively, would you agree?	17:25:40	22	A. Yes.	17:30:06
23	A. If they weren't told how many or how	17:25:44	23	Q. Okay. Do you see here that there is an	17:30:08
24	many square feet it's supposed to cover? But they	17:25:48	24	email sent from Debbie Feuerstein on February 14,	17:30:10
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1	I indicate that you need multiples if it's bigger	17:25:54	1	2013 at 9:47 a.m., do you see that?	17:30:16
2	than that,	17:25:58	2	A. I'm sorry, where are we?	17:30:22
3	Q. When you say they indicated, what do you	17:26:00	3	Q. Sure.	17:30:24
4	mean by that?	17:26:02	4	A. 9:47?	17:30:26
5	A. The instructions say that you may need	17:26:02	5	Q. Yes, 9:47 a.m., do you see that?	17:30:28
6	multiple units for a larger space.	17:26:04	6	A. Yes.	17:30:30
7	Q. Can you turn back to the instructions,	17:26:28	7	Q. Do you see here in this email	17:30:30
8	please, Exhibit 3? It's this big -- this is	17:26:30	8	Ms. Feuerstein -- and you recognize Ms. Feuerstein	17:30:32
9	Exhibit 3 from the Potter deposition, Potter 3.	17:27:00	9	to be the inventor of the pest repellers, correct?	17:30:36
10	And then the instructions are the fourth sheet. So	17:27:12	10	A. Yes.	17:30:38
11	it's double-sided, the fourth sheet.	17:27:14	11	Q. You see here she says, "It is better NOT	17:30:38
12	Okay. My question regarding	17:27:34	12	to mention specific square feet for pest repellers.	17:30:42
13	instructions is -- I think you referenced earlier	17:27:38	13	our ultrasonic products is good for one average	17:30:46
14	that they said you need multiple units for spaces	17:27:40	14	size room. When we supplied for Sunbeam 10 years	17:30:48
15	over 175 square feet, and my question is where do	17:27:44	15	ago, we had some issues with FTC (Federal Trade	17:30:50
16	you see that here?	17:27:48	16	Commission) about footage claim," do you see that?	17:30:56
17	A. Do we have the image of the outside side	17:27:48	17	A. Yes.	17:30:58
18	of the packaging, or is this it?	17:27:52	18	Q. So do you understand from this that they	17:30:58
19	Q. The image of the outside of the	17:27:54	19	specifically chose to not report the square	17:31:00
20	packaging I believe is the page before. Oh, are	17:27:56	20	footage?	17:31:04
21	you referring to Exhibit 7?	17:28:02	21	A. Yes, and then I also see the Qmain	17:31:04
22	A. I am not seeing that there. Maybe I'm	17:28:38	22	efficiency test reports that its coverage is 318	17:31:06
23	remembering it from other content.	17:28:40	23	square feet, nearly double.	17:31:10
24	Q. I'll ask the Court Reporter to please	17:29:02	24	Q. And you recognize that as the unreliable	17:31:10
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